



# San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT



MAY 18 2010

Mr. Martin Lundy  
Chevron USA, Inc.  
P.O. Box 1392  
Bakersfield, CA 93302

**Re: Notice of Preliminary Decision - ATC / Certificate of Conformity**  
**Facility # S-1141**  
**Project # S-1093861**

Dear Mr. Lundy:

Enclosed for your review and comment is the District's analysis of an application for Authorities to Construct for Chevron USA, Inc. Heavy Oil Western Stationary Source, CA. Chevron is lowering SOx and NOx limits, adding flue gas recirculation (FGR) and low NOx burners as necessary on 41 steam generators to comply with Rule 4320.

After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the Authorities to Construct will be issued to the facility with Certificates of Conformity. Prior to operating with modifications authorized by the Authorities to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

The public notice will be published approximately three days from the date of this letter. Please submit your written comments within the 30-day public comment period which begins on the date of publication of the public notice.

If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,

David Warner  
Director of Permit Services

DW: RR/cm

Enclosures

**Sayed Sadredin**  
Executive Director/Air Pollution Control Officer

**Northern Region**  
4800 Enterprise Way  
Modesto, CA 95356-8718  
Tel: (209) 557-6400 FAX: (209) 557-6475

**Central Region (Main Office)**  
1990 E. Gettysburg Avenue  
Fresno, CA 93726-0244  
Tel: (559) 230-6000 FAX: (559) 230-6061

**Southern Region**  
34946 Flyover Court  
Bakersfield, CA 93308-9725  
Tel: 661-392-5500 FAX: 661-392-5585



# San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT



MAY 18 2010

Gerardo C. Rios, Chief  
Permits Office  
Air Division  
U.S. EPA - Region IX  
75 Hawthorne St.  
San Francisco, CA 94105

**Re: Notice of Preliminary Decision - ATC / Certificate of Conformity**  
**Facility # S-1141**  
**Project # S-1093861**

Dear Mr. Rios:

Enclosed for your review is the District's engineering evaluation of an application for Authorities to Construct for Chevron USA, Inc. Heavy Oil Western Stationary Source, CA, which has been issued a Title V permit. Chevron USA, Inc. is requesting that Certificates of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. Chevron is lowering SOx and NOx limits, adding flue gas recirculation (FGR) and low NOx burners as necessary on 41 steam generators to comply with Rule 4320.

Enclosed is the engineering evaluation of this application, along with the current Title V permit, and proposed Authorities to Construct # S-1141-19-25 & 61 others with Certificates of Conformity. After demonstrating compliance with the Authority to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

Please submit your written comments on this project within the 45-day comment period that begins on the date you receive this letter. If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,

David Warner  
Director of Permit Services

DW: RR/cm

Enclosures

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# San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT



HEALTHY AIR LIVING™

MAY 18 2010

Mike Tollstrup, Chief  
Project Assessment Branch  
Air Resources Board  
P O Box 2815  
Sacramento, CA 95812-2815

Re: **Notice of Preliminary Decision - ATC / Certificate of Conformity**  
**Facility # S-1141**  
**Project # S-1093861**

Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of an application for Authorities to Construct for Chevron USA, Inc. Heavy Oil Western Stationary Source, CA. Chevron is lowering SOx and NOx limits, adding flue gas recirculation (FGR) and low NOx burners as necessary on 41 steam generators to comply with Rule 4320.

The public notice will be published approximately three days from the date of this letter. Please submit your written comments within the 30-day public comment period which begins on the date of publication of the public notice.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,

David Warner  
Director of Permit Services

DW: RR/cm

Enclosures

**Sayed Sadredin**  
Executive Director/Air Pollution Control Officer

**Northern Region**  
4800 Enterprise Way  
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**NOTICE OF PRELIMINARY DECISION  
FOR THE PROPOSED ISSUANCE OF  
AUTHORITY TO CONSTRUCT**

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Air Pollution Control District solicits public comment on the proposed issuance of Authority To Construct to Chevron USA, Inc. for its heavy oil facility in the Heavy Oil Western Stationary Source, California. Chevron is lowering SO<sub>x</sub> and NO<sub>x</sub> limits, adding flue gas recirculation (FGR) and low NO<sub>x</sub> burners as necessary on 41 steam generators to comply with Rule 4320.

The analysis of the regulatory basis for these proposed actions, Project #S-1093861, is available for public inspection at [http://www.valleyair.org/notices/public\\_notices\\_idx.htm](http://www.valleyair.org/notices/public_notices_idx.htm) and the District office at the address below. Written comments on the proposed initial permit must be submitted within 30 days of the publication date of this notice to **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308-9725.**



# San Joaquin Valley Air Pollution Control District Authority to Construct

## Retrofit of Natural Gas-Fired Steam Generators for Rule 4320 Compliance

|                  |                          |                |                |
|------------------|--------------------------|----------------|----------------|
| Facility Name:   | Chevron USA, Inc.        | Date:          | May 10, 2010   |
| Mailing Address: | P.O. Box 1392            | Engineer:      | Robert Rinaldi |
|                  | Bakersfield, CA 93302    | Lead Engineer: | Richard Karrs  |
| Contact Person:  | Martin Lundy             |                |                |
| Telephone:       | 661-654-7142             |                |                |
| Fax:             | 661-654-7004             |                |                |
| Application #'s: | S-1141-19-25 & 61 others |                |                |
| Project #'s:     | S-1093861                |                |                |
| Deemed Complete: | February 10, 2010        |                |                |

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### I. PROPOSAL

Chevron USA, Inc. (CUSA) requests an Authority to Construct (ATC) for the modification of 41 steam generators permitted in the heavy oil western stationary source.

The applicant is proposing to:

- Modify some of the existing natural gas-fired steam generators by retrofitting units with flue gas recirculation (FGR) and/or adding low NO<sub>x</sub> burners.
- Lowering the NO<sub>x</sub> limit to 9 ppmv @ 3% O<sub>2</sub> on all 41 units.
- For some units, restating the SO<sub>x</sub> limit from 1.0 gr S/100 scf to the equivalent PUC quality limit of 0.00285 lb/MMBtu.
- For some units, limiting the steam generator fuel supply to 5 gr S/100 scf

all for compliance with District Rule 4320, *Boilers, Steam Generators, and Process Heaters – Phase 3*.

CUSA intends to comply with the NO<sub>x</sub> requirements of Rule 4320 by paying annual emission fees as allowed in Rule 4320 section 5.1.2 and is requesting these proposed ATCs as an optional form of compliance.

There will not be an increase in potential emissions of any pollutant as a result of this project. Installation of FGR and low NO<sub>x</sub> burners is proposed solely to comply with District Rule 4320 requirements. Since some of the units are experiencing a change in the method of operation of the steam generators these changes are modifications pursuant to District Rule 2201, *New and Modified Stationary Source Review Rule*.

In addition, the facility currently utilizes Alternate Monitoring Scheme "A" using a portable analyzer, according to District Policy SSP-1105, and is requesting to maintain the current monitoring arrangement.

Chevron USA, Inc. received their Title V Permit for facility S-1141 on November 30, 2001. This modification can be classified as a Title V minor modification pursuant to Rule 2520, Section 3.20, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. Chevron USA, Inc. must apply to administratively amend their Title V Operating Permit to include the requirements of the ATC(s) issued with this project.

## **II. APPLICABLE RULES**

Rule 2201 New and Modified Stationary Source Review Rule (9/21/06)  
Rule 2520 Federally Mandated Operating Permits (6/21/01)  
Rule 4001 New Source Performance Standards (4/14/99)  
Rule 4101 Visible Emissions (2/17/05)  
Rule 4102 Nuisance (12/17/92)  
Rule 4201 Particulate Matter Concentration (12/17/92)  
Rule 4301 Fuel Burning Equipment (12/17/92)  
Rule 4304 Equipment Tuning Procedure for Boilers, Steam Generators and Process Heaters (10/19/95)  
Rule 4305 Boilers, Steam Generators and Process Heaters – Phase II (8/21/03)  
Rule 4306 Boilers, Steam Generators and Process Heaters – Phase III (10/16/08)  
Rule 4320 Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (10/16/08)  
Rule 4405 Oxides Of Nitrogen Emissions From Existing Steam Generators Used In Thermally Enhanced Oil Recovery -Central And Western Kern County Fields (12/17/92)  
Rule 4406 Sulfur Compounds From Oil-Field Steam Generators – Kern County (12/17/92)  
Rule 4801 Sulfur Compounds (12/17/92)  
CH&SC 41700 Health Risk Assessment  
CH&SC 42301.6 School Notice  
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)  
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

## **II. PROJECT LOCATION**

The steam generators are permitted to operate in the heavy oil western stationary source. The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

#### IV. PROCESS DESCRIPTION

Chevron operates permitted equipment within their Heavy Oil Western stationary source, utilized for the thermally enhanced production of crude oil and natural gas. In thermally enhanced oil recovery (TEOR), natural gas is combusted in steam generators to produce steam for injection into heavy crude oil bearing strata via injection wells to reduce viscosity of the crude oil, thereby facilitating thermally enhanced oil production.

#### V. EQUIPMENT LISTING

##### Pre-Project Equipment Description:

The pre-project equipment descriptions (from base documents identified by the applicant) are included in Appendix A.

##### Proposed Modification:

###### \*S-1141-019-25:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED STRUTHERS STEAM GENERATOR #38 (SN 80-37391-2, NB 983, DIS 20629-81) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER AND AN O2 CONTROLLER: INSTALL FGR AND LIMIT NOX TO 9 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE

###### \*S-1141-038-29:

MODIFICATION OF 62.5 MMBTU/HR C. E. NATCO NATURAL GAS-FIRED STEAM GENERATOR #79 (SN T-6155901-11, NB 9815, DIS 20664-77) WITH A NORTH AMERICAN GLE LOW NOX BURNER WITH FLUE GAS RECIRCULATION (FGR) AND AN O2 CONTROLLER: LIMIT NOX TO 9 PPMV @ 3% O2, DELETE 1.0 GR S/100 SCF LIMIT AND RETAIN 0.00285 LB SOX/MMBTU ALL FOR RULE 4320 COMPLIANCE

###### \*S-1141-038-30:

MODIFICATION OF 62.5 MMBTU/HR C. E. NATCO NATURAL GAS-FIRED STEAM GENERATOR #79 (SN T-6155901-11, NB 9815, DIS 20664-77) WITH A NORTH AMERICAN GLE LOW NOX BURNER WITH FLUE GAS RECIRCULATION (FGR) AND AN O2 CONTROLLER: DELETE 1.0 GR S/100 SCF LIMIT AND RETAIN 0.00285 LB SOX/MMBTU FOR RULE 4320 COMPLIANCE

###### \*S-1141-043-22:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS FIRED STRUTHERS STEAM GENERATOR (SG #87, N.B. 998) WITH NORTH AMERICAN GLE ULTRA-LOW NOX BURNER, O2 CONTROLLER, AND FLUE GAS RECIRCULATION (FGR): LIMIT NOX TO 9 PPMV @ 3% O2 AND LIMIT SOX TO 5 GR-S/100 SCF FUEL ALL FOR RULE 4320 COMPLIANCE.

\*S-1141-043-23:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS FIRED STRUTHERS STEAM GENERATOR (SG #87, N.B. 998) WITH NORTH AMERICAN GLE ULTRA-LOW NOX BURNER, O2 CONTROLLER, AND FLUE GAS RECIRCULATION (FGR): LIMIT SOX TO 5 GR-S/100 SCF FUEL ALL FOR RULE 4320 COMPLIANCE.

\*S-1141-047-27:

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS NATURAL GAS-FIRED STEAM GENERATOR #95 (SN 80-37387-4, NB 967, DIS 12810-85) WITH FLUE GAS RECIRCULATION (FGR), NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER AND AN O2 ANALYZER/CONTROLLER: LIMIT NOX TO 9 PPMV @ 3% O2 AND RESTATE SOX LIMIT TO 0.00285 LB SOX/MMBTU ALL FOR RULE 4320 COMPLIANCE

\*S-1141-047-28:

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS NATURAL GAS-FIRED STEAM GENERATOR #95 (SN 80-37387-4, NB 967, DIS 12810-85) WITH FLUE GAS RECIRCULATION (FGR), NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER AND AN O2 ANALYZER/CONTROLLER: RESTATE SOX LIMIT TO 0.00285 LB SOX/MMBTU FOR RULE 4320 COMPLIANCE

\*S-1141-048-25:

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS NATURAL GAS-FIRED STEAM GENERATOR #96 (SN 80-37387-7, NB 970, DIS 12811-85) WITH FLUE GAS RECIRCULATION (FGR), NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER AND AN O2 ANALYZER/CONTROLLER: LIMIT NOX TO 9 PPMV @ 3% O2 AND CORRECT SOX LIMIT TO 0.00285 LB SOX/MMBTU ALL FOR RULE 4320 COMPLIANCE

\*S-1141-048-26:

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS NATURAL GAS-FIRED STEAM GENERATOR #96 (SN 80-37387-7, NB 970, DIS 12811-85) WITH FLUE GAS RECIRCULATION (FGR), NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER AND AN O2 ANALYZER/CONTROLLER: CORRECT SOX LIMIT TO 0.00285 LB SOX/MMBTU FOR RULE 4320 COMPLIANCE

\*S-1141-049-25:

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS NATURAL GAS-FIRED STEAM GENERATOR #97 (SN 80-37387-15, DIS 12810-85) NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER WITH FLUE GAS RECIRCULATION (FGR) AND AN O2 ANALYZER/CONTROLLER: LIMIT NOX TO 9 PPMV @ 3% O2 AND CORRECT SOX LIMIT TO 0.00285 LB SOX/MMBTU ALL FOR RULE 4320 COMPLIANCE

\*S-1141-049-26:

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS NATURAL GAS-FIRED STEAM GENERATOR #97 (SN 80-37387-15, DIS 12810-85) NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER WITH FLUE GAS RECIRCULATION (FGR) AND AN O2 ANALYZER/CONTROLLER: CORRECT SOX LIMIT TO 0.00285 LB SOX/MMBTU FOR RULE 4320 COMPLIANCE

\*S-1141-050-23:

MODIFICATION OF 62.5 MMBTU/HR SMITH MOON STEEL NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR #98 (SN 77-37182-12, NB 810, DIS 20654-78) WITH A NORTH AMERICAN BURNER WITH FLUE GAS RECIRCULATION (FGR) AND AN O2 ANALYZER/CONTROLLER: LIMIT NOX TO 9 PPMV @ 3% O2 AND CORRECT SOX LIMIT TO 0.00285 LB SOX/MMBTU ALL FOR RULE 4320 COMPLIANCE

\*S-1141-050-24:

MODIFICATION OF 62.5 MMBTU/HR SMITH MOON STEEL NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR #98 (SN 77-37182-12, NB 810, DIS 20654-78) WITH A NORTH AMERICAN BURNER WITH FLUE GAS RECIRCULATION (FGR) AND AN O2 ANALYZER/CONTROLLER: CORRECT SOX LIMIT TO 0.00285 LB SOX/MMBTU FOR RULE 4320 COMPLIANCE

\*S-1141-051-25

MODIFICATION OF 62.5 MMBTU/HR C. E. NATCO NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR #99 (SN T-6718101-08, NB 130, DIS 20640-79) WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER WITH FLUE GAS RECIRCULATION (FGR) AND AN O2 ANALYZER/CONTROLLER: LIMIT NOX TO 9 PPMV @ 3% O2, CORRECT SOX LIMIT TO 0.00285 LB SOX/MMBTU FOR RULE 4320 COMPLIANCE AND CORRECT EQUIPMENT LOCATION

\*S-1141-051-26:

MODIFICATION OF 62.5 MMBTU/HR C. E. NATCO NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR #99 (SN T-6718101-08, NB 130, DIS 20640-79) WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER WITH FLUE GAS RECIRCULATION (FGR) AND AN O2 ANALYZER/CONTROLLER: CORRECT SOX LIMIT TO 0.00285 LB SOX/MMBTU FOR RULE 4320 COMPLIANCE

\*S-1141-067-24:

MODIFICATION OF 62.5 MMBTU/HR C.E. NATCO NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER WITH FGR AND AN O2 CONTROLLER (#121, SN T-6718101-04, NB 108, DIS 20639-79): LIMIT NOX TO 9 PPMV @ 3% O2 AND LIMIT SOX TO 5 GR-S/100 SCF FUEL ALL FOR RULE 4320 COMPLIANCE.

\*S-1141-067-25:

MODIFICATION OF 62.5 MMBTU/HR C.E. NATCO NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER WITH FGR AND AN O2 CONTROLLER (#121, SN T-6718101-04, NB 108, DIS 20639-79): LIMIT SOX TO 5 GR-S/100 SCF FUEL ALL FOR RULE 4320 COMPLIANCE.

\*S-1141-368-13:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED SMITH MOON STEEL STEAM GENERATOR WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), AND O2 CONTROLLER: LIMIT NOX TO 9 PPMV @ 3% O2, DELETE 1.0 GR S/100 SCF LIMIT AND RETAIN 0.00285 LB SOX/MMBTU ALL FOR RULE 4320 COMPLIANCE

\*S-1141-368-14:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED SMITH MOON STEEL STEAM GENERATOR WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), AND O2 CONTROLLER: DELETE 1.0 GR S/100 SCF LIMIT AND RETAIN 0.00285 LB SOX/MMBTU ALL FOR RULE 4320 COMPLIANCE

\*S-1141-369-15:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED SMITH MOON STEEL STEAM GENERATOR #131 (NB 890) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), AND O2 CONTROLLER: LIMIT NOX TO 9 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE

\*S-1141-370-15:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED SMITH MOON STEEL STEAM GENERATOR #132 (NB 888) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), AND O2 CONTROLLER: LIMIT NOX TO 9 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE

\*S-1141-371-19:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED SMITH MOON STEEL STEAM GENERATOR #133 (DIS# 19962-71) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), AND O2 CONTROLLER: LIMIT NOX TO 9 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE

\*S-1141-372-24:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS FIRED C. E. NATCO STEAM GENERATOR #79 (SN T-7585901-07, NB 1220, DIS 20633-81) WITH A NORTH AMERICAN MODEL 4231-625-GLE LOW NOX BURNER, FLUE GAS RECIRCULATION, AND O2 CONTROLLER: LIMIT NOX TO 9 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE

\*S-1141-373-20:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED SMITH MOON STEEL STEAM GENERATOR #21S-4 (DIS# 19452-71, NB 551) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), AND O2 CONTROLLER: LIMIT NOX TO 9 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE

\*S-1141-374-11:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS-FIRED SMITH MOON STEEL STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER WITH FGR AND AN OXYGEN CONTROLLER (#4, SN 74-37127-1, NB 668): LIMIT NOX TO 9 PPMV @ 3% O2, DELETE 1.0 GR S/100 SCF LIMIT AND RETAIN 0.00285 LB SOX/MMBTU FOR RULE 4320 COMPLIANCE

\*S-1141-374-12:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS-FIRED SMITH MOON STEEL STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER WITH FGR AND AN OXYGEN CONTROLLER (#4, SN 74-37127-1, NB 668): DELETE 1.0 GR S/100 SCF LIMIT AND RETAIN 0.00285 LB SOX/MMBTU FOR RULE 4320 COMPLIANCE

\*S-1141-376-13:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED SMITH MOON STEEL STEAM GENERATOR #21NW-2 (DIS #30405-79) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), AND O2 CONTROLLER: LIMIT NOX TO 9 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE

\*S-1141-377-16:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED SMITH MOON STEEL STEAM GENERATOR #4 (SN 78-37189-3, NB 828, DIS 30413-79) WITH NORTH AMERICAN MODEL GLE 4211 OR GLE 4231 MAGNA-FLAME LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), FUEL INDUCED RECIRCULATION (FIR), AND O2 CONTROLLER: LIMIT NOX TO 9 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE

\*S-1141-378-13:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED CE NATCO STEAM GENERATOR # 6 (NB 9807) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), AND O2 CONTROLLER: LIMIT NOX TO 9 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE

\*S-1141-380-18:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED C. E. NATCO STEAM GENERATOR # 141 (NB 101, DIS# 20630-79) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), AND O2 CONTROLLER: LIMIT NOX TO 9 PPMV @ 3% O2, DELETE 1.0 GR S/100 SCF LIMIT AND RETAIN 0.00285 LB SOX/MMBTU FOR RULE 4320 COMPLIANCE

\*S-1141-380-19:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED C. E. NATCO STEAM GENERATOR # 141 (NB 101, DIS# 20630-79) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), AND O2 CONTROLLER: DELETE 1.0 GR S/100 SCF LIMIT AND RETAIN 0.00285 LB SOX/MMBTU FOR RULE 4320 COMPLIANCE

\*S-1141-402-15

MODIFICATION OF 62.5 MMBTU/HR SMITH MOON STEEL NATURAL GAS FIRED STEAM GENERATOR WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER HSG #192 (SN 79-37317-3, NB 901, DIS 20634-79) (INDIAN & COLONIAL LEASE): INSTALL FGR, LIMIT NOX TO 9 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE

\*S-1141-402-16

MODIFICATION OF 62.5 MMBTU/HR SMITH MOON STEEL NATURAL GAS FIRED STEAM GENERATOR HSG #192 (SN 79-37317-3, NB 901, DIS 20634-79) WITH NORTH AMERICAN BURNER - (INDIAN & COLONIAL LEASE): REPLACE BURNER WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER AND MODIFY CONVECTION AND RADIANT SECTION WATER/STEAM PIPING IF NECESSARY



\*S-1141-431-11:

MODIFICATION OF 62.5 MMBTU/HR C. E. NATCO NATURAL GAS-FIRED STEAM GENERATOR (#26 CENTRAL 6) WITH A NORTH AMERICAN GLE LOW-NOX BURNER WITH FLUE GAS RECIRCULATION (FGR) AND AN O2 CONTROLLER: LIMIT NOX TO 9 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE

\*S-1141-432-10:

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS THERMOFLOOD NATURAL GAS-FIRED STEAM GENERATOR (#26 CENTRAL 8, NATIONAL BOARD# 1254) WITH A NORTH AMERICAN GLE LOW-NOX BURNER WITH FLUE GAS RECIRCULATION (FGR) AND AN O2 CONTROLLER: LIMIT NOX TO 9 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE

\*S-1141-516-08:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS FIRED SMITH MOON STEEL STEAM GENERATOR (N.B. #827 A) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER: INSTALL FGR, LIMIT NOX TO 9 PPMV @ 3% O2 AND LIMIT SOX TO 5 GR-S/100 SCF FUEL ALL FOR RULE 4320 COMPLIANCE

\*S-1141-516-09:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS FIRED SMITH MOON STEEL STEAM GENERATOR (N.B. #827 A) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER: LIMIT SOX TO 5 GR-S/100 SCF FUEL ALL FOR RULE 4320 COMPLIANCE

\*S-1141-517-15:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED STRUTHERS THERMOFLOOD STEAM GENERATOR N.B. #981 WITH MAGNA-FLAME LOW NOX BURNER, FGR AND O2 ANALYZER/ CONTROLLER: LIMIT NOX TO 9 PPMV @ 3% O2 AND LIMIT SOX TO 5 GR-S/100 SCF FUEL ALL FOR RULE 4320 COMPLIANCE

\*S-1141-517-16:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED STRUTHERS THERMOFLOOD STEAM GENERATOR N.B. #981 WITH MAGNA-FLAME LOW NOX BURNER, FGR AND O2 ANALYZER/ CONTROLLER: LIMIT SOX TO 5 GR-S/100 SCF FUEL FOR RULE 4320 COMPLIANCE

\*S-1141-518-09:

MODIFICATION OF 62.5 MMBTU/HR GAS/TEOR GAS-FIRED SMITH MOON STEEL STEAM GENERATOR N.B. #856 WITH GLE 4231 LOW NOX BURNER, FGR, O2 ANALYZER/CONTROLLER: LIMIT NOX TO 9 PPMV @ 3% O2 AND LIMIT SOX TO 5 GR-S/100 SCF FUEL ALL FOR RULE 4320 COMPLIANCE

\*S-1141-518-10:

MODIFICATION OF 62.5 MMBTU/HR GAS/TEOR GAS-FIRED SMITH MOON STEEL STEAM GENERATOR N.B. #856 WITH GLE 4231 LOW NOX BURNER, FGR, O2 ANALYZER/CONTROLLER: LIMIT SOX TO 5 GR-S/100 SCF FUEL ALL FOR RULE 4320 COMPLIANCE

\*S-1141-519-06:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED C.E. NATCO STEAM GENERATOR N.B. #9777 WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FGR AND O2 ANALYZER/CONTROLLER: LIMIT NOX TO 9 PPMV @ 3% O2 AND LIMIT SOX TO 5 GR-S/100 SCF FUEL ALL FOR RULE 4320 COMPLIANCE

\*S-1141-519-07:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED C.E. NATCO STEAM GENERATOR N.B. #9777 WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FGR AND O2 ANALYZER/CONTROLLER: LIMIT SOX TO 5 GR-S/100 SCF FUEL ALL FOR RULE 4320 COMPLIANCE

\*S-1141-521-06:

MODIFICATION OF 62.5 MMBTU/HR GAS-FIRED C.E. NATCO STEAM GENERATOR N.B. #9788 WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR) SYSTEM, AND O2 ANALYZER/CONTROLLER: LIMIT NOX TO 9 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE

\*S-1141-522-06:

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS THERMOFLOOD NATURAL GAS-FIRED STEAM GENERATOR N.B. #979 WITH A NORTH AMERICAN MAGNA-FLAME MODEL GLE ULTRA LOW NOX BURNER, FGR AND O2 ANALYZER/CONTROLLER: LIMIT NOX TO 9 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE

\*S-1141-523-07:

MODIFICATION OF 62.5 MMBTU/HR GAS-FIRED SMITH MOON STEEL STEAM GENERATOR N.B. #855 WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER FGR AND O2 CONTROLLER: LIMIT NOX TO 9 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE

\*S-1141-524-08:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED SMITH MOON STEEL STEAM GENERATOR (N.B. #776) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), AND O2 CONTROLLER: LIMIT NOX TO 9 PPMV @ 3% O2, DELETE 1.0 GR S/100 SCF LIMIT AND RETAIN 0.00285 LB SOX/MMBTU ALL FOR RULE 4320 COMPLIANCE

\*S-1141-524-09:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED SMITH MOON STEEL STEAM GENERATOR (N.B. #776) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), AND O2 CONTROLLER: DELETE 1.0 GR S/100 SCF LIMIT AND RETAIN 0.00285 LB SOX/MMBTU FOR RULE 4320 COMPLIANCE

\*S-1141-530-06:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED C.E. NATCO STEAM GENERATOR (N.B.#9814) WITH FGR AND NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER: LIMIT NOX TO 9 PPMV @ 3% O2 AND LIMIT SOX TO 5 GR-S/100 SCF FUEL ALL FOR RULE 4320 COMPLIANCE

\*S-1141-530-07:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED C.E. NATCO STEAM GENERATOR (N.B.#9814) WITH FGR AND NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER: LIMIT SOX TO 5 GR-S/100 SCF FUEL FOR RULE 4320 COMPLIANCE

\*S-1141-531-06:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED C.E. NATCO STEAM GENERATOR N.B.#3194 WITH FGR AND NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER: LIMIT NOX TO 9 PPMV @ 3% O2 AND LIMIT SOX TO 5 GR-S/100 SCF FUEL ALL FOR RULE 4320 COMPLIANCE

\*S-1141-531-07:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED C.E. NATCO STEAM GENERATOR N.B.#3194 WITH FGR AND NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER: LIMIT SOX TO 5 GR-S/100 SCF FUEL FOR RULE 4320 COMPLIANCE

\*S-1141-532-06:

MODIFICATION OF 62.5 MMBTU/HR GAS-FIRED NATIONAL TANK STEAM GENERATOR (N.B.#6870) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FGR AND O2 CONTROLLER: LIMIT NOX TO 9 PPMV @ 3% O2 AND LIMIT SOX TO 5 GR-S/100 SCF FUEL ALL FOR RULE 4320 COMPLIANCE

\*S-1141-532-07:

MODIFICATION OF 62.5 MMBTU/HR GAS-FIRED NATIONAL TANK STEAM GENERATOR (N.B.#6870) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FGR AND O2 CONTROLLER: LIMIT SOX TO 5 GR-S/100 SCF FUEL FOR RULE 4320 COMPLIANCE

\*S-1141-533-06:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED SMITH MOON STEEL STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER WITH FGR (N.B. #701): LIMIT NOX TO 9 PPMV @ 3% O2 AND LIMIT SOX TO 5 GR-S/100 SCF FUEL ALL FOR RULE 4320 COMPLIANCE

\*S-1141-533-07:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED SMITH MOON STEEL STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER WITH FGR (N.B. #701): LIMIT SOX TO 5 GR-S/100 SCF FUEL FOR RULE 4320 COMPLIANCE

\*S-1141-534-06:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED HEATER TECHNOLOGY STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER WITH FGR (N.B. #8): LIMIT NOX TO 9 PPMV @ 3% O2 AND LIMIT SOX TO 5 GR-S/100 SCF FUEL ALL FOR RULE 4320 COMPLIANCE

\*S-1141-534-07:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED HEATER TECHNOLOGY STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER WITH FGR (N.B. #8): LIMIT SOX TO 5 GR-S/100 SCF FUEL FOR RULE 4320 COMPLIANCE

\*S-1141-535-06:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED DANIEL STEAM GENERATOR (N.B. #124) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FGR AND O2 CONTROLLER: LIMIT NOX TO 9 PPMV @ 3% O2 AND LIMIT SOX TO 5 GR-S/100 SCF FUEL ALL FOR RULE 4320 COMPLIANCE

\*S-1141-535-07:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED DANIEL STEAM GENERATOR (N.B. #124) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FGR AND O2 CONTROLLER: LIMIT SOX TO 5 GR-S/100 SCF FUEL ALL FOR RULE 4320 COMPLIANCE

\*S-1141-554-08:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED SMITH MOON STEEL STEAM GENERATOR (NATIONAL BOARD #690) WITH A NORTH AMERICAN MODEL MAGNA-FLAME GLE ULTRA LOW NOX BURNER, AN O2 CONTROLLER, AND A FLUE GAS RECIRCULATION SYSTEM: LIMIT NOX TO 9 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE

\*S-1141-594-04:

MODIFICATION OF STEAM GENERATOR WITH A 62.5 MMBTU/HR NORTH AMERICAN GLE 4231 BURNER, AN O2 CONTROLLER, AND FLUE GAS RECIRCULATION: LIMIT NOX TO 9 PPMV @ 3% O2 FOR RULE 4320 COMPLIANCE

Post Project Equipment Description:

The post-project equipment description will include only one of the above options. The appropriate equipment will be listed in each of the PTOs.

## VI. EMISSION CONTROL TECHNOLOGY EVALUATION

The combustion equipment in this project is capable of generating NO<sub>x</sub>, CO, VOC, PM10 and SO<sub>x</sub> emissions due to the combustion of natural and waste gases. The steam generators in this project may have been (or may be) authorized to operate with North American Magna-Flame GLE low-NO<sub>x</sub> burners, flue gas recirculation (FGR) and exhaust to a shared SO<sub>2</sub> scrubber filter system.

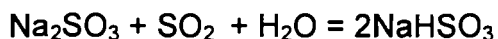
Low-NO<sub>x</sub> burners reduce NO<sub>x</sub> formation by producing lower flame temperatures (and longer flames) than conventional burners. Conventional burners thoroughly mix all the fuel and air in a single stage just prior to combustion, whereas low-NO<sub>x</sub> burners delay the mixing of fuel and air by introducing the fuel (or sometimes the air) in multiple stages. Generally, in the first combustion stage, the air-fuel mixture is fuel rich. In a fuel rich environment, all the oxygen will be consumed in reactions with the fuel, leaving no excess oxygen available to react with nitrogen to produce thermal NO<sub>x</sub>. In the secondary and tertiary stages, the combustion zone is maintained in a fuel-lean environment. The excess air in these stages helps to reduce the flame temperature so that the reaction between the excess oxygen with nitrogen is minimized. Manufacturer data, specifications and diagrams are included as Attachment IV.

The use of flue gas re-circulation (FGR) can reduce nitrogen oxides (NO<sub>x</sub>) emissions by 60% to 70%. In an FGR system, a portion of the flue gas is re-circulated back to the inlet air. As flue gas is composed mainly of nitrogen and the products of combustion, it is much lower in oxygen than the inlet air and contains virtually no combustible hydrocarbons to burn. Thus, flue gas is practically inert. The addition of an inert mass of gas to the combustion reaction serves to absorb heat without producing heat, thereby lowering the flame temperature. Since thermal NO<sub>x</sub> is formed by high flame temperatures, the lower flame temperatures produced by FGR serve to reduce thermal NO<sub>x</sub>. A diagram of the flue gas recirculation system is included as Attachment D.

The SO<sub>2</sub> scrubber uses a caustic liquid (sorbent) for the absorption of sulfur compounds in the exhaust stream. The sulfur in the exhaust stream is captured and converted chemically to a sodium bisulfite compound. Sulfur dioxide is absorbed into a sodium sulfite solution. The reaction forms sodium bisulfite, which is converted back to sodium sulfite by the addition of a calcium precipitating agent. The precipitated calcium compounds are then filtered from solution and disposed of as slurry/sludge. The stoichiometry of the reaction follows:

### Absorption:

sodium sulfite + sulfur dioxide + water = sodium bisulfite



### Regeneration:

sodium bisulfite + calcium hydroxide (limestone) = sodium sulfite + calcium sludge



A scrubber diagram is provided in **Attachment VI**.

## VII. GENERAL CALCULATIONS

### A. Assumptions

- The maximum operating schedule is 24 hours per day
- The units are fired on natural gas
- Gas Heating Value: 1,000 Btu/scf (District Practice)
- F-Factor for Natural Gas: 8,578 dscf/MMBtu corrected to 60°F (40 CFR 60, Appendix B)
- Rated capacity for all units is 62.5 MMBtu/hr.
- Maximum daily NO<sub>x</sub> and CO emissions will be kept at their current levels. These levels allow for higher emissions during one or more periods of startup/shutdown on any given day and are considered to represent worst case emissions.

### B. Emission Factors

#### ***Pre-Project Emission Factors (EF1) – For all permit units except listed below***

| Pollutant       | Pre-Project Emission Factors (EF1) |   | Source                |
|-----------------|------------------------------------|---|-----------------------|
| NO <sub>x</sub> | 0.018 lb-NO <sub>x</sub> /MMBtu    | 15 ppmvd NO <sub>x</sub> (@ 3% O <sub>2</sub> ) | Current Permit or ATC |
| SO <sub>x</sub> |                                    | 1.0 gr S/100 scf                                | Current Permit or ATC |

#### ***Pre-Project Emission Factors (EF1) – For remainder of permit units***

| Pollutant       | Permit Units  | Pre-Project Emission Factors (EF1) | Source                |
|-----------------|---|------------------------------------|-----------------------|
| SO <sub>x</sub> | S-1141-43, '-67, '-530, '-531, '-532, '-533, '-534, '-535 | 0.126 lb SO <sub>x</sub> /MMBtu    | Current Permit or ATC |
| SO <sub>x</sub> | S-1141-516  | 0.113 lb SO <sub>x</sub> /MMBtu    | Current Permit or ATC |
| SO <sub>x</sub> | S-1141-517  | 0.219 lb SO <sub>x</sub> /MMBtu    | Current Permit or ATC |
| SO <sub>x</sub> | S-1141-518  | 0.04 lb SO <sub>x</sub> /MMBtu     | Current Permit or ATC |
| SO <sub>x</sub> | S-1141-519  | 0.08 lb SO <sub>x</sub> /MMBtu     | Current Permit or ATC |

**Post-Project Emission Factors (EF2) - For all permit units except listed below**

| Pollutant       | Post-Project Emission Factors (EF2) |  | Source                |
|-----------------|-------------------------------------|--|-----------------------|
| NO <sub>x</sub> | 0.011 lb-NO <sub>x</sub> /MMBtu     | 9 ppmvd NO <sub>x</sub> (@ 3% O <sub>2</sub> ) | Rule 4320 limit       |
| SO <sub>x</sub> | 0.00285 lb-SO <sub>x</sub> /MMBtu   |  | Proposed and APR 1720 |

**Post-Project Emission Factors (EF2) – For remainder of permit units**

| Pollutant       | Permit Units   | Pre-Project Emission Factors (EF1)                     | Source                |
|-----------------|--|--|-----------------------|
| SO <sub>x</sub> | S-1141-43, '-67, '-516, '-517, '-518, '-519, '-530, '-531, '-532, '-533, '-534 & '-535 | 5.0 gr. S/100 scf. or 0.0143 lb SO <sub>x</sub> /MMBtu | Current Permit or ATC |

The below calculation demonstrates that 1.0 gr S/100 scf (pre-project) is equivalent to 0.00285 lb-SO<sub>x</sub>/MMBtu (post-project). Therefore there will be no change in SO<sub>x</sub> emissions.

$$\left( \frac{64 \text{ lb} - \text{SO}_x}{32 \text{ lb} - \text{S}} \right) \frac{1 \text{ gr} - \text{S}}{100 \text{ dscf}} \left( \frac{1 \text{ lb}}{7,000 \text{ gr}} \right) \frac{\text{dscf}}{1,000 \text{ Btu}} \left( \frac{10^6 \text{ Btu}}{\text{MMBtu}} \right) = 0.00285 \frac{\text{lb} - \text{SO}_x}{\text{MMBtu}}$$

The below calculation demonstrates the equivalent lb-SO<sub>x</sub>/MMBtu for 5.0 gr. S/100 scf.

$$\left( \frac{64 \text{ lb} - \text{SO}_x}{32 \text{ lb} - \text{S}} \right) \frac{5 \text{ gr} - \text{S}}{100 \text{ dscf}} \left( \frac{1 \text{ lb}}{7,000 \text{ gr}} \right) \frac{\text{dscf}}{1,000 \text{ Btu}} \left( \frac{10^6 \text{ Btu}}{\text{MMBtu}} \right) = 0.0143 \frac{\text{lb} - \text{SO}_x}{\text{MMBtu}}$$



**C. Calculations****1. Pre-Project Potential to Emit (PE1)**

The PE1 for each pollutant is calculated with the following equation:

$$\text{PE1} = \text{EF (lb/MMBtu)} \times \text{Heat Input (MMBtu/hr)} \times \text{Op. Sched. (hr/day or hr/year)}$$

| Pollutant       | Daily PE1         |                          |                                |                    |
|-----------------|-------------------|--------------------------|--------------------------------|--------------------|
|                 | EF1<br>(lb/MMBtu) | Heat Input<br>(MMBtu/hr) | Operating Schedule<br>(hr/day) | Daily PE1 (lb/day) |
| NO <sub>x</sub> | 0.018             | 62.5                     | 24                             | 27.0               |
| SO <sub>x</sub> | 0.00285           | 62.5                     | 24                             | 4.3                |
| SO <sub>x</sub> | 0.126             | 62.5                     | 24                             | 189.0              |
| SO <sub>x</sub> | 0.113             | 62.5                     | 24                             | 169.5              |
| SO <sub>x</sub> | 0.219             | 62.5                     | 24                             | 328.5              |
| SO <sub>x</sub> | 0.040             | 62.5                     | 24                             | 60.0               |
| SO <sub>x</sub> | 0.080             | 62.5                     | 24                             | 120.0              |

| Pollutant       | Annual PE1        |                          |                                 |                         |
|-----------------|-------------------|--------------------------|---------------------------------|-------------------------|
|                 | EF1<br>(lb/MMBtu) | Heat Input<br>(MMBtu/hr) | Operating Schedule<br>(hr/year) | Annual PE1<br>(lb/year) |
| NO <sub>x</sub> | 0.018             | 62.5                     | 8,760                           | 9,855                   |
| SO <sub>x</sub> | 0.00285           | 62.5                     | 8,760                           | 1,560                   |
| SO <sub>x</sub> | 0.126             | 62.5                     | 8,760                           | 68,985                  |
| SO <sub>x</sub> | 0.113             | 62.5                     | 8,760                           | 61,868                  |
| SO <sub>x</sub> | 0.219             | 62.5                     | 8,760                           | 119,903                 |
| SO <sub>x</sub> | 0.040             | 62.5                     | 8,760                           | 21,900                  |
| SO <sub>x</sub> | 0.080             | 62.5                     | 8,760                           | 43,800                  |

**2. Post-Project Potential to Emit (PE2)**

The PE2 for each pollutant is calculated with the following equation:

$$\text{PE2} = \text{EF (lb/MMBtu)} \times \text{Heat Input (MMBtu/hr)} \times \text{Op. Sched. (hr/day or hr/year)}$$

| Pollutant             | Daily PE2         |                          |                                |                    |
|-----------------------|-------------------|--------------------------|--------------------------------|--------------------|
|                       | EF2<br>(lb/MMBtu) | Heat Input<br>(MMBtu/hr) | Operating Schedule<br>(hr/day) | Daily PE2 (lb/day) |
| <b>NO<sub>x</sub></b> | 0.011             | 62.5                     | 24                             | 16.5               |
| <b>SO<sub>x</sub></b> | 0.00285           | 62.5                     | 24                             | 4.3                |
| <b>SOx</b>            | 0.0143            | 62.5                     | 24                             | 21.5               |

| Pollutant             | Annual PE2        |                          |                                 |                         |
|-----------------------|-------------------|--------------------------|---------------------------------|-------------------------|
|                       | EF2<br>(lb/MMBtu) | Heat Input<br>(MMBtu/hr) | Operating Schedule<br>(hr/year) | Annual PE2<br>(lb/year) |
| <b>NO<sub>x</sub></b> | 0.011             | 62.5                     | 8,760                           | 6,023                   |
| <b>SO<sub>x</sub></b> | 0.00285           | 62.5                     | 8,760                           | 1,560                   |
| <b>SOx</b>            | 0.0143            | 62.5                     | 8,760                           | 7,829                   |

**3. Pre-Project Stationary Source Potential to Emit (SSPE1)**

SSPE1 calculations are necessary to aid the following determinations:

- If the facility is becoming a new Major Source,
- An offset threshold will be surpassed, or
- A Stationary Source Increase in Permitted Emissions (SSIPE) public notice is triggered

Pursuant to Section 4.9 of District Rule 2201, the Pre-Project Stationary Source Potential to Emit (SSPE1) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

Facility emissions are above the Offset and Major Source Thresholds for all pollutants. There is no increase in potential emissions for any of the units, for any pollutant in this project; therefore, SSPE1 calculations are not necessary.

#### **4. Post-Project Stationary Source Potential to Emit (SSPE2)**

SSPE2 calculations are necessary to aid the following determinations:

- If the facility is becoming a new Major Source,
- An offset threshold will be surpassed, or
- An SSIPE public notice is triggered

Pursuant to Section 4.10 of District Rule 2201, the Post-Project Stationary Source Potential to Emit (SSPE2) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

Facility emissions are already above the Offset and Major Source Thresholds for all pollutants. There is no increase in potential emissions for any of the units, for any pollutant in this project. The potential to emit for NO<sub>x</sub> and SO<sub>x</sub> will decrease in accordance with District Rule 4320. Therefore, SSPE2 calculations are not necessary.

#### **5. Major Source Determination**

Pursuant to Section 3.24 of District Rule 2201, a major source is a stationary source a Post-Project Stationary Source Potential to Emit (SSPE2), equal to or exceeding one or more of the Major Source threshold values (excluding ERCs banked onsite that have not been used onsite).

This source is an existing Major Source for all pollutants and will remain so. No change in Major Source status is proposed or expected as a result of this project.

#### **6. Baseline Emissions (BE)**

The BE calculation (in lb/year) is performed on a pollutant-by-pollutant basis to determine the amount of offsets required, where necessary, when the SSPE1 is greater than the offset threshold. This project is exempt from offsets pursuant to Rule 2201, Section 4.6.8 as the modification is being made solely to comply with Rule 4320. Therefore, BE calculations are not required.

## 7. Major Modification

This facility is an existing major source for all air contaminants.

District Rule 2201 references the definition of major modification provided in 40 CFR 51.165 (v)(A) in effect on December 19, 2002, where major modification means any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act.

Significant is defined under Part 51.165(x) as a net emissions increase in the potential of a source to emit any affected pollutant equal to or exceeding any applicable thresholds. For existing major sources in the San Joaquin Valley Air Basin, which is non-attainment for Ozone and PM<sub>10</sub>, a major modification occurs if the Net Emissions Increases (NEI) is equal to or greater than one or more of the following threshold values when calculated on actual to PE basis:

| Major Modification Thresholds (Existing Major Source) |                      |                     |                     |
|---|----------------------|---------------------|---------------------|
| Pollutant   | Project PE (lb/year) | Threshold (lb/year) | Major Modification? |
| NO <sub>x</sub>                                       | >50,000 <sup>1</sup> | 50,000              | Yes                 |
| SO <sub>x</sub>                                       | >80,000 <sup>1</sup> | 80,000              | Yes                 |
| PM <sub>10</sub>                                      | >30,000 <sup>1</sup> | 30,000              | Yes                 |
| VOC   | >50,000 <sup>1</sup> | 50,000              | Yes                 |

Therefore, this project is a major modification and public notice is required.

<sup>1</sup> Due to the large number of affected units proposed by CUSA for facilities S-1128, S-1129, and S-1141 for Rule 4320 compliance this project in conjunction with others (and considering that boilers and steam generators typically have actual emissions below their permitted emission levels) is presumed to cross one or more major modification thresholds.

## **8. Federal Major Modification**

Pursuant to Rule 2201 Section 3.17 to determine if a project is a Federal major modification, the calculation procedure in 40 CFR 51.165(a)(2)(ii) shall be used.

This calculation procedure states that if the sum of the differences between the projected actual emissions and the baseline actual emissions (for existing emission units) or the sum of the potentials to emit (for new emission units) is significant, i.e. greater than the values listed in Rule 2201 Table 3-1, the project is a Federal major modification.

For existing emission units where there is no increase in design capacity the projected actual emissions (PAE) are equal to the emission rate at which the unit is projected to emit in any one year selected by the operator within 5 years after the unit resumes normal operation (10 years for existing units with an increase in design capacity). This projection is made by the operator and must be based on all relevant information, e.g. expected business activity.

For emission units (other than electric utility steam generating units) the baseline actual emissions (BAE) are calculated based on any 24 month period selected by the operator within the previous 10 year period. These emissions must not include any non-compliant operation

In calculating the emission increase (PAE – BAE), the portion of the emissions after the project that the unit could have actually emitted (during the same period used to determine BAE) that are unrelated to the particular project and emissions due to increased product demand are excluded.

For rule compliance projects, the difference between the PAE and the BAE (excluding emissions that the unit could have emitted during the baseline period) for pollutants targeted by the subject rule will be a negative value.

Additionally, it can reasonably be concluded that the difference between the PAE and the BAE (excluding emissions that the unit could have emitted during the baseline period) for non-targeted pollutants will be zero as any increase in actual emissions (after the project) would be due to increases in business activity and not due to the modification itself. Such emission increases are excluded when calculating the emission increase.

For the reasons stated above, this rule compliance project will not result in a significant emission increase and therefore is not a Federal major modification.

## **VIII. COMPLIANCE**

### **District Rule 2201 New and Modified Stationary Source Review Rule**

#### **A. Best Available Control Technology (BACT)**

##### **1. BACT Applicability**

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis for the following\*:

- a. Any new emissions unit with a potential to emit exceeding two pounds per day,
- b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
- c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an APE exceeding two pounds per day, and/or
- d. Any new or modified emissions unit, in a stationary source project, which results in a Major Modification.

\*Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

However, BACT shall not be required for the following:

4.2.3 For existing facilities, the installation or modification of an emission control technique performed solely for the purpose of compliance with the requirements of District, State or Federal air pollution control laws, regulations, or orders, as approved by the APCO, shall be exempt from Best Available Control Technology for all air pollutants, provided all of the following conditions are met:

- 4.2.3.1 There shall be no increase in the physical or operational design of the existing facility, except for those changes to the design needed for the installation or modification of the emission control technique itself;
- 4.2.3.2 There shall be no increase in the permitted rating or permitted operating schedule of the permitted unit;
- 4.2.3.3 There shall be no increase in emissions from the stationary source that will cause or contribute to any violation of a National Ambient Air Quality Standard, Prevention of Significant Deterioration increment, or Air Quality Related Value in Class I areas; and
- 4.2.3.4 The project shall not result in an increase in permitted emissions or potential to emit of more than 25 tons per year of NO<sub>x</sub>, or 25 tons per year of VOC, or 15 tons per year of SO<sub>x</sub>, or 15 tons per year of PM<sub>10</sub>, or 50 tons per year of CO.

Since each of the above-listed criteria are met, BACT is not required for any pollutant.

## **B. Offsets**

### **1. Offset Applicability**

The proposed modifications are solely for compliance with Rule 4320, and are exempt from offsets if the following criteria are satisfied. Rule 2201, Section 4.6.8 provides the following exemption from offsets.

Emission offsets shall not be required for the following:

- 4.6.8 For existing facilities, the installation or modification of an emission control technique performed solely for the purpose of compliance with the requirements of District, State or Federal air pollution control laws, regulations, or orders, as approved by the APCO, shall be exempt from offset requirements for all air pollutants provided all of the following conditions are met:
  - 4.6.8.1 There shall be no increase in the physical or operational design of the existing facility, except for those changes to the design needed for the installation or modification of the emission control technique itself;
  - 4.6.8.2 There shall be no increase in the permitted rating or permitted operating schedule of the permitted unit;
  - 4.6.8.3 There shall be no increase in emissions from the stationary source that will cause or contribute to any violation of a National Ambient Air Quality Standard, Prevention of Significant Deterioration increment, or Air Quality Related Value in Class I areas; and
  - 4.6.8.4 The project shall not result in an increase in permitted emissions or potential to emit of more than 25 tons per year of NO<sub>x</sub>, or 25 tons per year of VOC, or 15 tons per year of SO<sub>x</sub>, or 15 tons per year of PM-10, or 50 tons per year of CO.

Since each of the above-listed criteria are met, offsets are not required for any pollutant.

### **2. Quantity of Offsets Required**

As seen above, the project meets the exemption requirements of section 4.6.8 of District Rule 2201; therefore offset calculations are not necessary and offsets are not required for this project.

## **C. Public Notification**

### **1. Applicability**

Public noticing is required for:

- a. Any new Major Source, which is a new facility that is also a Major Source,
- b. Major Modifications,
- c. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- d. Any project which results in the offset thresholds being surpassed, and/or
- e. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.

#### **a. New Major Source**

As demonstrated in section VII.C.5 above, the facility is not becoming a Major Source as a result of this project.

#### **b. Major Modification**

As demonstrated in VII.C.7, this project constitutes a Major Modification; therefore, public noticing for Major Modification purposes is required.

#### **c. PE > 100 lb/day**

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. There are no new emissions units associated with this project; therefore public noticing is not required for this project for Potential to Emit exceeding the 100 lb/day limit.

#### **d. Offset Threshold**

Public notification is required if the Pre-Project Stationary Source Potential to Emit (SSPE1) is increased from a level below the offset threshold to a level exceeding the emissions offset threshold, for any pollutant.

There is no increase in permitted emissions as a result of this project. Therefore, the SSPE is not increasing with this project and an offset threshold cannot be surpassed as a result of this project. A public notice will not be required for offset threshold purposes.

#### **e. SSIPE > 20,000 lb/year**

An SSIPE exceeding 20,000 pounds per year for any one pollutant triggers public notice, where  $SSIPE = SSPE2 - SSPE1$ .

There is no increase in permitted emissions as a result of this project. As a result, SSPE is not increasing with this project. Therefore, the SSIPE is zero for all pollutants and public notice will not be required for SSIPE purposes.



## **2. Public Notice Action**

As discussed above, public notice will be required for this project.

### **D. Daily Emission Limits (DELs)**

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Section 3.15 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. Per Sections 3.15.1 and 3.15.2, the DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

The DELs for the unit is based on the use of natural gas as a fuel and will be stated in the form of emission factors as shown:

22. Emission rates, except during startup and shutdown, shall not exceed any of the following: PM10: 0.014 lb/MMBtu, SOx (as SO2): 0.00285 lb/MMBTU, NOx (as NO2) 9 ppmv @ 3% O2 or 0.011 lb/MMBTU, VOC: 0.0028 lb/MMBtu or CO: 37 ppmvd @ 3% O2. [District Rule 2201, 4305 and 4306] N

### **E. Compliance Assurance**

#### **1. Source Testing**

This unit is subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters, Phase 2*, District Rule 4306, *Boilers, Steam Generators and Process Heaters, Phase 3*, and District Rule 4320, *Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5 MMBtu/hr*. Source testing requirements, in accordance with District Rules 4305, 4306, and 4320 have been included on the ATC.

#### **2. Monitoring**

As required by District Rule 4305, *Boilers, Steam Generators and Process Heaters, Phase 2*, District Rule 4306, *Boilers, Steam Generators and Process Heaters, Phase 3*, and District Rule 4320, *Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5 MMBtu/hr*, this unit is subject to monitoring requirements. Monitoring requirements, in accordance with District Rules 4305, 4306, and 4320 have been included on the ATC.

### 3. Recordkeeping

As required by District Rule 4305, *Boilers, Steam Generators and Process Heaters, Phase 2*, District Rule 4306, *Boilers, Steam Generators and Process Heaters, Phase 3*, and District Rule 4320, *Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5 MMBtu/hr* this unit is subject to recordkeeping requirements. Recordkeeping requirements, in accordance with District Rules 4305, 4306, and 4320 have been included on the ATC.

### 4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

## District Rule 2520 Federally Mandated Operating Permits

Chevron USA, Inc. has a Title V permit. The changes authorized by these ATCs constitute a minor modification of their Title V permit. As discussed above, the facility has applied for a Certificate of Conformity (COC); therefore, the facility must apply to modify their Title V permit with an administrative amendment prior to operating with the proposed modifications and permit conditions will be listed as follows:

- {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201]
- {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520]

## District Rule 4001 New Source Performance Standards

40 CFR Part 60, Subpart Dc applies to Small Industrial-Commercial-Industrial Steam Generators between 10 MMBtu/hr and 100 MMBtu/hr (post-6/9/89 construction, modification or, reconstruction).

The steam generators listed in this project are subject to this subpart. The applicable monthly fuel use record keeping requirements of section 60.48c(g) will be satisfied by District Rule 4306 and Rule 4320 requirements.

The applicable 2-year record retention requirement of section 60.48c(i) will be subsumed by the District's 5-year record retention requirement.

40 CFR Part 60, Subpart A, section 14, defines the meaning of modification to which the standards are applicable. §60.14, paragraph (e)(5) states that the following will not be considered as a modification: *"the addition or use of any system or device whose primary function is the reduction of air pollutants, except when an emission control system is removed or replaced by a system which the Administrator determines to be less environmentally beneficial"*.

No newly constructed or reconstructed units are proposed in this project, nor is the unit being modified (as defined above). Since the permittee is retrofitting the unit with low NOx burners and/or FGR for compliance with District rules and regulations, the requirements of these sections do not apply to the unit.

#### **District Rule 4101 Visible Emissions**

District Rule 4101, Section 5.0, indicates that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour, which is dark or darker than Ringelmann 1 or equivalent to 20% opacity.

A permit condition will be listed on the permit as follows:

- {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]

Therefore, compliance with District Rule 4101 requirements is expected.

#### **District Rule 4102 Nuisance**

Section 4.0 prohibits discharge of air contaminants, which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, compliance with this rule is expected.

A permit condition will be listed on the permit as follows:

- {98} No air contaminant shall be released into the atmosphere, which causes a public nuisance. [District Rule 4102]

#### **California Health & Safety Code 41700 (Health Risk Assessment)**

District Policy APR 1905 - Risk Management Policy for Permitting New and Modified Sources specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

Since the applicant is not proposing an increase in emissions with this project, a health risk assessment is not necessary and no further risk analysis is required.

**District Rule 4201 Particulate Matter Concentration**

Section 3.1 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot. The worst case emissions unit will be used for this calculation (0.009 lb-PM<sub>10</sub>/MMBtu).

$$\begin{array}{ll}
 \text{F-Factor for NG:} & 8,578 \text{ dscf/MMBtu at } 60^\circ\text{F} \\
 \text{PM}_{10} \text{ Emission Factor:} & 0.0076 \text{ lb-PM}_{10}\text{/MMBtu} \\
 \text{Percentage of PM as PM}_{10} \text{ in Exhaust:} & 100\% \\
 \text{Exhaust Oxygen (O}_2\text{) Concentration:} & 3\% \\
 \text{Excess Air Correction to F Factor} = & \frac{20.9}{(20.9 - 3)} = 1.17
 \end{array}$$

$$GL = \left( \frac{0.0076 \text{ lb-PM}}{\text{MMBtu}} \times \frac{7,000 \text{ grain}}{\text{lb-PM}} \right) / \left( \frac{8,578 \text{ ft}^3}{\text{MMBtu}} \times 1.17 \right)$$

$$GL = 0.005 \text{ grain/dscf} < 0.1 \text{ grain/dscf}$$

Therefore, compliance with District Rule 4201 requirements is expected and a permit condition will be listed on the permit as follows:

- {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

**District Rule 4301 Fuel Burning Equipment**

This rule specifies maximum emission rates in lb/hr for SO<sub>2</sub>, NO<sub>2</sub>, and combustion contaminants (defined as total PM in Rule 1020). This rule also limits combustion contaminants to ≤ 0.1 gr/scf. According to AP 42 (Table 1.4-2, footnote c), all PM emissions from natural gas combustion are less than 1 μm in diameter.

| District Rule 4301 Limits (lb/hr) |                 |          |                 |
|-----------------------------------|-----------------|----------|-----------------|
| Pollutant                         | NO <sub>2</sub> | Total PM | SO <sub>2</sub> |
| For each units                    | 0.69            | 0.88     | 1.79            |
| Rule Limit (lb/hr)                | 140             | 10       | 200             |

The above table indicates compliance with the maximum lb/hr emissions in this rule; therefore, continued compliance is expected.

**District Rule 4304 - Equipment Tuning Procedure for Boilers, Steam Generators and Process Heaters**

Pursuant to District Rules 4305 and 4306, Section 6.3.1, the boiler is not required to tune since it follows District approved Alternate Monitoring scheme A, where the applicable emission limits are periodically monitored. Therefore, the units are not subject to this rule.

### **District Rule 4305 Boilers, Steam Generators and Process Heaters – Phase 2**

This units have a maximum heat input of 62.5 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4305, the units are subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters – Phase 2*.

In addition, these units are also subject to District Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3*.

Since the emissions limits of District Rule 4306 and all other requirements are equivalent or more stringent than District Rule 4305 requirements, compliance with District Rule 4306 requirements will satisfy the requirements of District Rule 4305.

### **District Rule 4306 Boilers, Steam Generators and Process Heaters – Phase 3**

This unit has a maximum heat input of 30 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4306, these units are subject to District Rule 4306.

In addition, these units are also subject to *District Rule 4320, Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5 MMBtu/hr*.

The subject units are currently in compliance with the applicable provisions of this rule. Source testing, monitoring and recordkeeping requirements of Rule 4320 are equal to or more stringent than the requirements of this rule; therefore, continued compliance is expected

## **District Rule 4320 Advance Emission Reduction Options for Boilers, Steam Generators and Process Heaters Greater than 5 MMBtu/hr**

This rule limits NO<sub>x</sub>, CO, SO<sub>2</sub> and PM<sub>10</sub> emissions from boilers, steam generators and process heaters rated greater than 5 MMBtu/hr. This rule also provides a compliance option of payment of fees in proportion to the actual amount of NO<sub>x</sub> emitted over the previous year.

The unit in this project is at greater than 5 MMBtu/hr heat input.

### **Section 5.1 NO<sub>x</sub> Emission Limits**

Section 5.1 states that an operator of a unit(s) subject to this rule shall comply with all applicable requirements of the rule and one of the following, on a unit-by-unit basis:

- 5.1.1 Operate the unit to comply with the emission limits specified in Sections 5.2 and 5.4; or
- 5.1.2 Pay an annual emissions fee to the District as specified in Section 5.3 and comply with the control requirements specified in Section 5.4; or
- 5.1.3 Comply with the applicable Low-use Unit requirements of Section 5.5.

Section 5.2.1 states that on and after the indicated Compliance Deadline units shall not be operated in a manner which exceeds the applicable NO<sub>x</sub> limit specified in Table 1 of this rule.

With a maximum heat input of 62.5 MM Btu/hr for these boilers the applicable emission limit category Section 5.2, Table 1, Category C, from District Rule 4320 is as follows:

| <b>Table 1: Rule 4320 NO<sub>x</sub> Emission Limits</b> |  |   |                                |
|--|--|---|--------------------------------|
| <b>Category</b>  | <b>NO<sub>x</sub> Limit</b>  | <b>Author<br/>ity to<br/>Constr<br/>uct</b> | <b>Compliance<br/>Deadline</b> |
| 2. Units with a total rated heat input > 20.0 MMBtu/hr   | b) Staged Enhanced<br>Schedule Initial Limit<br>9 ppmv or 0.011 lb/MMBtu | July 1,<br>2011                             | July 1, 2012                   |

As shown above, the 9 ppmvd @ 3% O<sub>2</sub> NO<sub>x</sub> limit proposed for the boilers in this project is consistent with one of the compliance options allowed by the rule. The source testing and alternative monitoring requirements of the rule are consistent with those in existing Rule 4306 and will be included on the requested Authority to Construct. Additionally, the emissions factor limits (worst case) of 0.0143 lb SO<sub>2</sub>/MMBtu is consistent with the particulate matter and SO<sub>x</sub> control requirements. Therefore, compliance with this rule is expected.

Daily emission limiting conditions have been included in section VIII.D. Compliance with section 5.2 is expected.

### **Section 5.6 Startup and Shutdown Provisions**

Section 5.6 states that on and after the full compliance deadline specified in Section 5.0, the applicable emission limits of Sections 5.2 Table 1 and 5.5.2 shall not apply during start-up or shutdown provided an operator complies with the requirements specified in Sections 5.6.1 through 5.6.5.

CUSA has proposed to retain existing start-up and shutdown duration limits of 2 hours and 2 hours, respectively. Emissions during start-up and shutdown will not be subject to the emission limits in Sections 5.2 and 5.2.2. The following conditions will be listed on the ATCs:

- Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 4306, and 4320]
- Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320]

### **Section 5.7 Monitoring Provisions**

Section 5.7.1 requires that permit units subject to District Rule 4320, Section 5.2 shall either install and maintain an operational APCO approved Continuous Emission Monitoring System (CEMS) for NO<sub>x</sub>, CO and O<sub>2</sub>, or implement an APCO-approved alternate monitoring.

Consistent with current permit requirements, CUSA proposes to continue implementing Alternate Monitoring Scheme A (pursuant to District Policy SSP-1105), which requires that monitoring of NO<sub>x</sub>, CO, and O<sub>2</sub> exhaust concentrations shall be conducted at least once per month (in which a source test is not performed) using a portable analyzer. The following conditions will be incorporated into the ATCs to ensure compliance with the requirements of the proposed alternate monitoring plan:

- {4063} The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Measurement shall be made with the FGR system in the mode of operation (closed or open) in which it was used in the preceding 30 days. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320]

- {4064} If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320]
- {4065} All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320]
- {4066} The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent by volume and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320]

## **Section 5.8 Compliance Determination**

Section 5.8.1 requires that the operator of any unit shall have the option of complying with either the applicable heat input (lb/MMBtu), emission limits or the concentration (ppmv) emission limits specified in Section 5.2. The emission limits selected to demonstrate compliance shall be specified in the source test proposal pursuant to Rule 1081 (Source Sampling).

Therefore, the following condition will be listed on the ATCs as follows:

- {2976} The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320]

Section 5.8.2 requires that all emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0. Therefore, the following permit condition will be listed on the ATCs as follows:

- {2972} All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the Permit to Operate, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320]



Section 5.8.4 requires that for emissions monitoring pursuant to Sections 5.7.1 and 6.3.1 using a portable NO<sub>x</sub> analyzer as part of an APCO approved Alternate Emissions Monitoring System, emission readings shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15-consecutive-minute sample reading or by taking at least five (5) readings evenly spaced out over the 15-consecutive-minute period. Therefore, the following previously listed permit condition will be on the ATCs as follows:

- {2937} All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320]

Section 5.8.5 requires that for emissions source testing performed pursuant to Section 6.3.1 for the purpose of determining compliance with an applicable standard or numerical limitation of this rule, the arithmetic average of three (3) 30-consecutive-minute test runs shall apply. If two (2) of three (3) runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. Therefore, the following permit condition will be listed on the permit as follows:

- {2980} For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320]

## **Section 6.1 Recordkeeping**

Section 6.1 requires that the records required by Sections 6.1.1 through 6.1.5 shall be maintained for five calendar years and shall be made available to the APCO and EPA upon request. Failure to maintain records or information contained in the records that demonstrate noncompliance with the applicable requirements of this rule shall constitute a violation of this rule.

A permit condition will be listed on the permit as follows:

- {2983} All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320]

**Section 6.2, Test Methods**

Section 6.2 identifies the following test methods as District-approved source testing methods for the pollutants listed:

| Pollutant                  | Units    | Test Method Required                  |
|----------------------------|----------|---------------------------------------|
| NO <sub>x</sub>            | ppmv     | EPA Method 7E or ARB Method 100       |
| NO <sub>x</sub>            | lb/MMBtu | EPA Method 19                         |
| CO                         | ppmv     | EPA Method 10 or ARB Method 100       |
| Stack Gas O <sub>2</sub>   | %        | EPA Method 3 or 3A, or ARB Method 100 |
| Stack Gas Velocities       | ft/min   | EPA Method 2                          |
| Stack Gas Moisture Content | %        | EPA Method 4                          |

The following permit conditions will be listed on the permit as follows:

- {109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
- The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, SO<sub>x</sub> (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - EPA Method 11 or 15, ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 4305, 4306 and 4320]

**Section 6.3, Compliance Testing**

Section 6.3.1 requires that this unit be tested to determine compliance with the applicable requirements of section 5.1 and 5.2.3 not less than once every 12 months. Upon demonstrating compliance on two consecutive compliance source tests, the following source test may be deferred for up to thirty-six months.

The following permit conditions will be listed on the ATCs:

- Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320]
- Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320]
- The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

In addition, since the applicant has proposed to use pre-approved Alternate Monitoring Scheme "A" using a portable analyzer, the tune-up requirements listed in Section 6.3.1 are not applicable to the boiler. Section 6.3.1 also requires that, during the 36-month source testing interval, the owner/operator shall monthly monitor the operational characteristics recommended by the unit manufacturer. Since the pre-approved Alternate Monitoring Scheme "A" using a portable analyzer requires monthly monitoring of NO<sub>x</sub>, CO, and O<sub>2</sub> exhaust emissions concentrations, operational characteristics monitoring requirement is satisfied, and no further discussion is required.

#### **Section 6.4, Emission Control Plan (ECP)**

Section 6.4 requires the operator of any unit to submit to APCO for approval an Emissions Control Plan no later than January 1, 2010. CUSA has submitted an Emissions Control Plan.

#### **Section 7.0, Compliance Schedule**

Section 7.0 identifies the dates by which the operator shall submit an application for an ATC and the date by which the owner shall demonstrate compliance with this rule.

The units will be in compliance with the emissions limits listed in Table 1, Section 5.2 of this rule, and periodic monitoring and source testing as required by District Rule 4320. Therefore, requirements of the compliance schedule, as listed in Section 7.0 of District Rule 4320, are satisfied. No further discussion is required.

#### **Conclusion**

Conditions will be incorporated into the permit in order to ensure compliance with each section of this rule, see attached draft permits in Appendix C. Therefore, compliance with District Rule 4320 requirements is expected.

### **District Rule 4405 Oxides of Nitrogen Emissions from Existing Steam Generators Used in Thermally Enhanced Oil Recovery – Central and Western Kern County Fields**

This rule limits NO<sub>x</sub> emissions from existing steam generators used in thermally enhanced oil recovery operations prior to August 22, 1986. The steam generators in this project are subject to a NO<sub>x</sub> limit well below the 0.14 lb/MMBTU limit allowed by this rule for natural gas-fired units. Therefore, continued compliance is expected.

### **Rule 4406 Sulfur Compounds from Oil-Field Steam Generators – Kern County**

This rule limits SO<sub>x</sub> emissions from existing steam generators used in oil field operations prior to September 12, 1979. Sulfur compound emissions (as S) from the steam generators in this project are limited to an average rate below the 0.11 lb/MMBTU limit for sulfur (as S) allowed by the rule. Continued compliance is expected.

**District Rule 4801 Sulfur Compounds**

A person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge: 0.2 % by volume calculated as SO<sub>2</sub>, on a dry basis averaged over 15 consecutive minutes.

Using the ideal gas equation and the emission factors presented in Section VII, the sulfur compound emissions are calculated as follows:

$$\text{Volume SO}_2 = \frac{n RT}{P}$$

With:

N = moles SO<sub>2</sub>

T (Standard Temperature) = 60°F = 520°R

P (Standard Pressure) = 14.7 psi

R (Universal Gas Constant) =  $\frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}}$

$$\frac{0.00285 \text{ lb} - \text{SO}_x}{\text{MMBtu}} \times \frac{\text{MMBtu}}{8,578 \text{ dscf}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb}} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}} \times \frac{520^\circ\text{R}}{14.7 \text{ psi}} \times \frac{1,000,000 \cdot \text{parts}}{\text{million}} = 1.97 \frac{\text{parts}}{\text{million}}$$

$$\text{SulfurConcentration} = 1.97 \frac{\text{parts}}{\text{million}} < 2,000 \text{ ppmv (or 0.2\%)}$$

Therefore, compliance with District Rule 4801 requirements is expected.

**California Health & Safety Code 42301.6 (School Notice)**

This facility is not located within 1,000 feet of a school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

**California Environmental Quality Act (CEQA)**

The California Environmental Quality Act (CEQA) requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The San Joaquin Valley Unified Air Pollution Control District (District) adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities.
- Identify the ways that environmental damage can be avoided or significantly reduced.
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.

- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

## IX. RECOMMENDATION

Compliance with all applicable rules and regulations is expected. Issue Authorities to Construct S-1141-19-25 & 61 others subject to the permit conditions on the attached draft Authorities to Construct in Appendix B.

## X. BILLING INFORMATION

| Annual Permit Fees |              |                 |            |
|--------------------|--------------|-----------------|------------|
| Permit Number      | Fee Schedule | Fee Description | Annual Fee |
| All 41 units       | 3020-02-H    | 62.5 MMBtu/hr   | \$1,030.00 |

## Appendices

- Appendix A: Base Document Permits  
Appendix B: Draft ATCs  
Appendix C: TVFORM-009  
Appendix D: Manufacturer data, specifications and diagrams

## Appendix A

### Base Document Permits



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1141-19-23

**ISSUANCE DATE:** 02/07/2007

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** 21 **TOWNSHIP:** 32S **RANGE:** 23E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED STRUTHERS STEAM GENERATOR #38 (SN 80-37391-2, NB 983, DIS 20629-81) WITH NORTH AMERICAN BURNER, AND O2 CONTROLLER: TRANSFER LOCATION TO SECTION 21, T32S, R23E, AND REPLACE BURNER WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER OR DISTRICT-APPROVED EQUIVALENT FOR RULE 4306 COMPLIANCE AND MODIFY CONVECTION AND RADIANT SECTION WATER/STEAM PIPING IF NECESSARY

## CONDITIONS

1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
3. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)]
4. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
5. The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Sayed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1141-19-23 - Dec 31 2009 2:49PM - RINALDIR - Joint Inspection NOT Required

6. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
7. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.4.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
8. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2]
9. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2]
10. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
11. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
12. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.4.2 and County Rules 404 (Madera), 406 (Fresno), and 407 (Kern, Kings, Merced, San Joaquin, Stanislaus, and Tulare)] Federally Enforceable Through Title V Permit
13. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
14. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
15. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
16. The requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
17. The requirements of SJVUAPCD Rule 4351 (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE



18. During a "shakedown" period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 30 ppmvd @ 3% O<sub>2</sub> or 0.036 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4306 compliance deadline selected for this unit. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4306]
19. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rule 4306]
20. Permittee shall maintain records of duration of each start-up and shutdown, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4306]
21. Emission rates shall not exceed: PM<sub>10</sub>: 21.0 lb/day or 7665 lb/year, SO<sub>x</sub>: 4.3 lb/day or 1570 lb/year, NO<sub>x</sub> (as NO<sub>2</sub>): 54.0 lb/day or 9855 lb/year, VOC: 4.2 lb/day or 1533 lb/year, CO: 40.5 lb/day or 14,783 lb/year. [District Rule 2201]
22. Emission rates, except during startup and shutdown, shall not exceed any of the following: PM<sub>10</sub>: 0.014 lb/MMBtu, SO<sub>x</sub> (as SO<sub>2</sub>): 0.00285 lb/MMBTU, NO<sub>x</sub> (as NO<sub>2</sub>) 15 ppmv @ 3% O<sub>2</sub> or 0.018 lb/MMBTU, VOC: 0.0028 lb/MMBtu or CO: 37 ppmvd @ 3% O<sub>2</sub>. [District Rule 2201, 4305 and 4306]
23. Source testing to measure NO<sub>x</sub> and CO emissions shall be conducted within 60 days of initial start-up and not less than once every 12 months, except as provided below. [District Rule 2520, 9.4.2, 4305 and 4306]
24. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306]
25. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306]
26. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306]
27. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
28. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
29. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
30. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, and stack gas oxygen - EPA Method 3 or 3A or ARB Method 100. [District Rules 1081, 4305 and 4306] Federally Enforceable Through Title V Permit
31. Permittee shall maintain records of fuel hhv and cumulative annual fuel use for a period of five years and shall make such records readily available for District inspection upon request. [District Rule 2520, 9.4.2, 4305 and 4306]
32. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306]

CONDITIONS CONTINUE ON NEXT PAGE

33. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306]
34. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306]
35. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306]
36. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.4.2, 4305 and 4306] Federally Enforceable Through Title V Permit
37. The following conditions must be met for representative unit(s) to be used to test for NO<sub>x</sub> limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.4.2, 4305 and 4306] Federally Enforceable Through Title V Permit
38. All units in a group for which representative units are source for NO<sub>x</sub> emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.4.2, 4305 and 4306] Federally Enforceable Through Title V Permit
39. All units in a group for which representative units are source tested for NO<sub>x</sub> emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.4.2, 4305 and 4306] Federally Enforceable Through Title V Permit
40. The number of representative units source tested for NO<sub>x</sub> emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
41. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306]
42. All records shall be maintained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, and 4306]

CONDITIONS CONTINUE ON NEXT PAGE

43. The permittee shall notify the District of the approved burner to be installed prior to or concurrently with implementation of this ATC. [District Rule 2080]
44. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment.. [District Rule 2201]
45. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2010]
46. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
47. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201]



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1141-38-27

**ISSUANCE DATE:** 10/09/2006

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** NE21 **TOWNSHIP:** 32S **RANGE:** 23E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR C. E. NATCO NATURAL GAS-FIRED STEAM GENERATOR #79 (SN T-6155901-11, NB 9815, DIS 20664-77) WITH A NORTH AMERICAN BURNER WITH FLUE GAS RECIRCULATION (FGR) AND AN O2 CONTROLLER: REPLACE OR MODIFY RADIANT AND/OR CONVECTION SECTIONS

## CONDITIONS

1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
4. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [County Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus)] Federally Enforceable Through Title V Permit
5. This generator is permitted to operate at the following locations: Sections 8 and NE21 of Township 32S, Range 23E and Sections SW23 and NW27 of Township 31S, Range 22E. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1141-38-27 : Dec 31 2009 2:50PM - RINALDIR : Joint Inspection NOT Required

6. The permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
7. Compliance with fuel sulfur limit(s) can be demonstrated either by monitoring sulfur content at location(s) after all fuel sources are combined prior to incineration, or by monitoring the sulfur content and volume of each fuel source and performing mass balance calculations. Records of monitoring locations, detected sulfur concentrations, and mass balance calculations, if necessary, shall be maintained and kept onsite and made readily available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
8. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
9. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
10. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
11. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
12. Total sulfur content of natural gas combusted shall not exceed 1.0 grain/100 scf. [District NSR Rule] Federally Enforceable Through Title V Permit
13. Emissions from the steam generator shall not exceed any of the following limits: 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.014 lb-PM<sub>10</sub>/MMBtu, or 0.006 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.0182 lb-NO<sub>x</sub>/MMBtu or 51 ppmvd CO @ 3% O<sub>2</sub> or 0.0375 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
15. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
17. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

18. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 54.0 lb-NO<sub>x</sub>/day, 9,965 lb-NO<sub>x</sub>/yr, 56.3 lb-CO/day, and 20,531 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1 and 4306, 6.3.1] Federally Enforceable Through Title V Permit
20. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
21. If the steam generator is fired on PUC-regulated natural gas, then the permittee shall maintain on file copies of all natural gas bills or fuel throughput records for a period of five years. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
22. If the steam generator is not fired on PUC-regulated natural gas, then the sulfur content of the fuel being fired in the steam generator shall be determined using ASTM D 1072, D 3031, D 4084, D 3246, double GC for H<sub>2</sub>S and mercaptans, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
23. If the steam generator is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
24. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
25. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
26. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
27. NO<sub>x</sub> emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
28. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

29. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
30. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
31. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
32. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 5.5.2 and 4306, 5.5.2] Federally Enforceable Through Title V Permit
33. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
34. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
35. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
36. The following conditions must be met for representative unit(s) to be used to test for NO<sub>x</sub> and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
37. All units in a group for which representative units are source tested for NO<sub>x</sub> and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
38. All units in a group for which representative units are source tested to for NO<sub>x</sub> and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
39. The number of representative units source tested for NO<sub>x</sub> and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
40. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1] Federally Enforceable Through Title V Permit

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41. Copies of all gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any non-certified fuel. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
42. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit
43. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
44. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
45. This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351 (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
46. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this Authority to Construct shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
47. The EPA Regional Administrator shall be notified by telephone, facsimile, or electronic mail transmission within two (2) working days following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in the condition below. In addition, the Regional Administrator shall be notified in writing within fifteen (15) days of any such failure. The notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the condition below, and the methods utilized to mitigate emissions and restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
48. The EPA Regional Administrator, the head of the State Air Pollution Control Agency, the head of the responsible local Air Pollution Control Agency, and/or their authorized representative, upon the presentation of credentials, shall be permitted: A. to enter the premises where the source is located or where any records are required to be kept under the terms and conditions of this Authority to Construct; and B. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Authority to Construct; and C. to inspect any equipment, operation, or method required in this Authority to Construct; and D. to sample emissions from the source(s). [PSD SJ 78-17] Federally Enforceable Through Title V Permit
49. In the event of any changes in control or ownership of the facilities to be constructed, the Authority to Construct shall be binding on all subsequent owners and operators. The applicant shall notify the succeeding owner and operator of the existence of this Authority to Construct and its conditions by letter, a copy of which shall be forwarded to the EPA Regional Administrator and the State and local Air Pollution Control Agency. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
50. The provisions of this Authority to Construct are severable, and, if any provision of the Authority to Construct is held invalid, the remainder of this Authority to Construct shall not be affected thereby. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
51. The owner and operator of the proposed facility shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60, and 61 and all other applicable federal, state, and local air quality regulations. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
52. Permittee shall consume no more than 6,290 barrels per day of oil on a daily maximum average and no more than 5,700 barrels per day of oil on an annual average basis. [PSD SJ 78-17] Federally Enforceable Through Title V Permit

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53. The sulfur content of the fuel shall be no greater than 1.5% by weight on a daily maximum average and no greater than 1.5% by weight on an annual average basis, as determined by ASTM Methods D115-68, D129-64, or D151-64, or equivalent methods approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
54. The amount of fuel burned and the sulfur content of the fuel shall be recorded in a permanent record and shall be available for periodic inspection by the District, the California Air Resource Board, and the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
55. Permittee shall have installed an operable scrubber on the equipment. Exhaust gases from the generator shall be ducted through an operable scrubber. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
56. Permittee shall not discharge into the atmosphere SO<sub>2</sub> in excess of 0.063 lbs/MMBtu. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
57. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance tests for SO<sub>2</sub>, and furnish the District and the EPA a written report of the results of such tests. The tests for SO<sub>2</sub> shall be conducted on an annual basis. The performance tests shall be conducted for each scrubber required for the generator. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
58. Permittee shall not discharge into the atmosphere NO<sub>x</sub> in excess of 0.277 lb/MMBtu (maximum 2-hour average). [PSD SJ 78-17] Federally Enforceable Through Title V Permit
59. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance test for NO<sub>x</sub>, and furnish the District and the EPA written report of the results of such tests. The tests for NO<sub>x</sub> shall be conducted on an annual basis and at the maximum operating capacity of the facilities being tested. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
60. Permittee shall install and operate ammonia injection equipment to control nitrogen oxide emissions on the steam generator. This condition may be amended if other control technologies are determined by EPA to satisfy BACT requirements, in accordance with the periodic BACT review procedure below. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
61. Permittee shall submit updated Best Available Control Technology (BACT) proposals every six months. Based on the information submitted and on other information which is available at that time, EPA may impose more stringent emission limits for NO<sub>x</sub>. In no event shall EPA set a higher emission limit for NO<sub>x</sub>. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
62. Performance tests for the emission of NO<sub>x</sub> and SO<sub>2</sub> shall be conducted and results reported in accordance with the methods set forth in Parts 60.8 and 60.46 of the Standards of Performance for New Sources. The EPA shall be notified at least 30 days in advance of such test to allow an observer to be present. In lieu of the above mentioned test methods, equivalent methods may be used if approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
63. ATC S-1141-38-23 shall be implemented prior to or concurrent with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit

# San Joaquin Valley Air Pollution Control District

**PERMIT UNIT:** S-1141-43-21

**EXPIRATION DATE:** 02/28/2006

**SECTION:** NE21 **TOWNSHIP:** 32S **RANGE:** 23E

**EQUIPMENT DESCRIPTION:**

62.5 MMBTU/HR NATURAL GAS/TEOR GAS FIRED STRUTHERS STEAM GENERATOR (SG #87, N.B. 998) WITH NORTH AMERICAN GLE ULTRA-LOW NOX BURNER, O2 CONTROLLER, AND FLUE GAS RECIRCULATION (FGR)

## PERMIT UNIT REQUIREMENTS

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1. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
2. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
3. The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
4. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
5. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
6. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
7. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
8. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

9. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
10. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rules 2520, 9.3.2 and 4801; Kern County Rule 407] Federally Enforceable Through Title V Permit
11. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [District Rules 2520, 9.3.2 and 4406] Federally Enforceable Through Title V Permit
12. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO2. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
13. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
14. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
15. This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351(Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
16. This generator is permitted to operate at the following locations: Sections 8 and 21 of Township 32S, Range 23E. [District NSR Rule] Federally Enforceable Through Title V Permit
17. The permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made in writing no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
18. Steam generator shall be equipped with the following operational instrumentation: fuel gas volume flowmeter, TEOR gas volume flowmeter, and flue gas oxygen monitor. [District NSR Rule and 4305] Federally Enforceable Through Title V Permit
19. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District NSR Rule and 1081] Federally Enforceable Through Title V Permit
20. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR gas incinerated in this unit. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit
21. Permittee shall measure and record the fuel gas sulfur content and BTU content at the time of NOx testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit
22. Permittee shall maintain with the permit a current listing of all thermally enhanced well vent control systems providing TEOR vapors to this steam generator and shall make such listing readily available for District inspection upon request [District NSR Rule] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

23. Permittee shall maintain daily records of volume of fuel gas burned, TEOR gas incinerated, and permit number(s) of TEOR systems providing gas for incineration. [District NSR Rule] Federally Enforceable Through Title V Permit
24. Records required by this permit shall be retained at the facility for a period of no less than 5 years and shall be made readily available for District inspection upon request. [District NSR Rule and 2520, 9.4.2] Federally Enforceable Through Title V Permit
25. Except for periods of startup and shutdown, emission rates shall not exceed any of the following: PM-10: 0.073 lb/MMBtu, NO<sub>x</sub> as NO<sub>2</sub>: 15 ppmv @ 3% O<sub>2</sub> or 0.018 lb/MMBtu, SO<sub>x</sub> as SO<sub>2</sub>: 0.126 lb/MMBtu, VOC: 0.0056 lb/MMBtu, or CO: 37 ppmv @ 3% O<sub>2</sub> or 0.027 lb/MMBtu. [District Rules 2201, 4305 and 4306]
26. Emissions shall not exceed any of the following: 54 lb NO<sub>x</sub>/day, 9,855 lb NO<sub>x</sub>/year, 189 lb/SO<sub>x</sub>/day, 109.5 lb PM<sub>10</sub>/day, 40.5 lb CO/day, 8.4 lb VOC/day. [District Rule 2201]
27. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rule 4306] Federally Enforceable Through Title V Permit
28. Permittee shall maintain records of duration of each start-up and shutdown, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit
29. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306]
30. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306]
31. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306]
32. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306]
33. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
34. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306]
35. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

36. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
37. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306]
38. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, PM<sub>10</sub> - EPA Method 5, and gas sulfur content - ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans. [District Rules 1081, 4305 and 4306]
39. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306]
40. Permittee shall pave and maintain with asphalt no less than 0.45 miles of roadway. The 0.45 miles of roadway constructed are in addition to new roadways associated with other steam injection and oil production well projects. [District NSR Rule] Federally Enforceable Through Title V Permit
41. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (Amended December 16, 1993), of 3 thirty-minute test runs for NO<sub>x</sub> and CO. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
42. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
43. The following conditions must be met for representative unit(s) to be used to test for NO<sub>x</sub> limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
44. All units in a group for which representative units are source for NO<sub>x</sub> emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
45. All units in a group for which representative units are source tested for NO<sub>x</sub> emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
46. The number of representative units source tested for NO<sub>x</sub> emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
47. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this Authority to Construct shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 78-16] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

48. The EPA Regional Administrator shall be notified by telephone, facsimile, or electronic mail transmission within two (2) working days following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in the condition below. In addition, the Regional Administrator shall be notified in writing within fifteen (15) days of any such failure. The notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the condition below, and the methods utilized to mitigate emissions and restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
49. The EPA Regional Administrator, the head of the State Air Pollution Control Agency, the head of the responsible local Air Pollution Control Agency, and/or their authorized representative, upon the presentation of credentials, shall be permitted: A. to enter the premises where the source is located or where any records are required to be kept under the terms and conditions of this Authority to Construct; and B. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Authority to Construct; and C. to inspect any equipment, operation, or method required in this Authority to Construct; and D. to sample emissions from the source(s). [PSD SJ 78-16] Federally Enforceable Through Title V Permit
50. In the event of any changes in control or ownership of the facilities to be constructed, the Authority to Construct shall be binding on all subsequent owners and operators. The applicant shall notify the succeeding owner and operator of the existence of this Authority to Construct and its conditions by letter, a copy of which shall be forwarded to the EPA Regional Administrator and the State and local Air Pollution Control Agency. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
51. The provisions of this Authority to Construct are severable, and, if any provision of the Authority to Construct is held invalid, the remainder of this Authority to Construct shall not be affected thereby. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
52. The owner and operator of the proposed facility shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60, and 61 and all other applicable federal, state, and local air quality regulations. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
53. Permittee shall consume no more than 5125 barrels per day of oil on a daily maximum average and no more than 4648 barrels per day of oil on an annual average basis. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
54. The sulfur content of the fuel shall be no greater than 1.5% by weight on a daily maximum average and no greater than 1.5% by weight on an annual average basis, as determined by ASTM Methods D115-68, D129-64, or D151-64, or equivalent methods approved by the EPA. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
55. The amount of fuel burned and the sulfur content of the fuel shall be recorded in a permanent record and shall be available for periodic inspection by the District, the California Air Resource Board, and the EPA. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
56. Permittee shall have installed operable scrubbers on the equipment. Exhaust gases from the generators shall be ducted through operable scrubbers. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
57. Permittee shall not discharge into the atmosphere SO<sub>2</sub> in excess of 0.063 lbs/MMBtu. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
58. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance tests for SO<sub>2</sub>, and furnish the District and the EPA a written report of the results of such tests. The tests for SO<sub>2</sub> shall be conducted on an annual basis. The performance tests shall be conducted for each scrubber required for the generator. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
59. Permittee shall not discharge into the atmosphere NO<sub>x</sub> in excess of 0.277 lb/MMBtu (maximum 2-hour average). [PSD SJ 78-16] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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60. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance test for NO<sub>x</sub>, and furnish the District and the EPA written report of the results of such tests. The tests for NO<sub>x</sub> shall be conducted on an annual basis and at the maximum operating capacity of the facilities being tested. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
61. Permittee shall install and operate ammonia injection equipment to control nitrogen oxide emissions on the steam generator. This condition may be amended if other control technologies are determined by EPA to satisfy BACT requirements, in accordance with the periodic BACT review procedure below. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
62. Permittee shall submit updated Best Available Control Technology (BACT) proposals every six months. Based on the information submitted and on other information which is available at that time, EPA may impose more stringent emission limits for NO<sub>x</sub>. In no event shall EPA set a higher emission limit for NO<sub>x</sub>. [PSD SJ 78-16] Federally Enforceable Through Title V Permit
63. Performance tests for the emission of NO<sub>x</sub> and SO<sub>2</sub> shall be conducted and results reported in accordance with the methods set forth in Parts 60.8 and 60.46 of the Standards of Performance for New Sources. The EPA shall be notified at least 30 days in advance of such test to allow an observer to be present. In lieu of the above mentioned test methods, equivalent methods may be used if approved by the EPA. [PSD SJ 78-16] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1141-47-26

**ISSUANCE DATE:** 01/11/2007

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** NW17 **TOWNSHIP:** 32S **RANGE:** 23E

### EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS NATURAL GAS-FIRED STEAM GENERATOR #95 (SN 80-37387-4, NB 967, DIS 12810-85) WITH A NORTH AMERICAN BURNER WITH FLUE GAS RECIRCULATION (FGR) AND AN O2 ANALYZER/CONTROLLER: REMOVE DORMANT EMISSION UNIT STATUS, TRANSFER LOCATION, REPLACE/MODIFY RADIANT AND CONVECTION SECTIONS, AND REPLACE BURNER WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER (OR DISTRICT-APPROVED EQUIVALENT) TO ACHIEVE 15 PPMVD-NOX @ 3% O2 FOR RULE 4306 COMPLIANCE (RENEWED ONE TIME- 1/29/09, RUE)

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
4. The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1141-47-26 : Dec 31 2009 2:51PM - RINALDIR - Joint Inspection NOT Required



5. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
6. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
7. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
8. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
9. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
11. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.3.2 and County Rules 404 (Madera), 406 (Fresno), and 407 (Kern, Kings, Merced, San Joaquin, Stanislaus, and Tulare)] Federally Enforceable Through Title V Permit
12. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
13. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
14. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
15. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

16. This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351(Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
17. This generator is permitted to operate at the following locations: Sections 17, 21, 22, 26, and 27 of Township 31S, Range 22E and Sections 17, 21 and 26 of Township 32S, Range 23E. [District NSR Rule] Federally Enforceable Through Title V Permit
18. The permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District NSR Rule] Federally Enforceable Through Title V Permit
19. Steam generator shall be equipped with the following operational instrumentation: fuel gas volume flowmeter, and flue gas oxygen monitor. [District NSR Rule and 4305] Federally Enforceable Through Title V Permit
20. Emission rates shall not exceed any of the following: PM<sub>10</sub>: 0.005 lb/MMBtu, SO<sub>x</sub> (as S): 0.001 lb/MMBTU, VOC: 0.003 lb/MMBtu or CO: 25 ppmvd @ 3% O<sub>2</sub>. [District Rules 2201, 4305, and 4306] Federally Enforceable Through Title V Permit
21. Except during start-up and shutdown periods NO<sub>x</sub> emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.0182 lb-NO<sub>x</sub>/MMBtu. [District Rule 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
22. Emissions of NO<sub>x</sub> shall not exceed 54.0 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
23. Source testing to measure NO<sub>x</sub> and CO emissions shall be conducted within 60 days of recommencing operation of this unit. [District Rule 4305] Federally Enforceable Through Title V Permit
24. Source testing to demonstrate compliance with NO<sub>x</sub> and CO emission limits shall be conducted not less than once every 12 months, except as provided below. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
25. Source testing to demonstrate compliance with NO<sub>x</sub> and CO emission limits shall be conducted not less than once every 36 months if compliance is demonstrated on two consecutive annual tests. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
26. If permittee fails any compliance demonstration for NO<sub>x</sub> and CO emission limits when testing not less than once every 36 months, compliance with NO<sub>x</sub> and CO emission limits shall be demonstrated not less than once every 12 months. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
27. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NO<sub>x</sub> and CO source testing requirement. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
28. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
29. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
30. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
31. Records required by this permit shall be retained at the facility for a period of no less than 5 years and shall be made readily available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
32. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, PM<sub>10</sub> - EPA Method 5, and gas sulfur content - ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans. [District Rules 1081, 4305] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306]
34. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305 and 4306]
35. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306]
36. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306]
37. The portable analyzer shall be calibrated prior to each use with a two-point calibration method (zero and span). Calibration shall be performed with certified calibration gases. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (Amended December 16, 1993), of 3 thirty-minute test runs for NO<sub>x</sub> and CO. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
39. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
40. The following conditions must be met for representative unit(s) to be used to test for NO<sub>x</sub> limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
41. All units in a group for which representative units are source for NO<sub>x</sub> emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

42. All units in a group for which representative units are source tested for NOx emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
43. The number of representative units source tested for NOx emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
44. The unit shall only be fired on natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
45. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this Authority to Construct shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
46. The EPA Regional Administrator shall be notified by telephone, facsimile, or electronic mail transmission within two (2) working days following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in the condition below. In addition, the Regional Administrator shall be notified in writing within fifteen (15) days of any such failure. The notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the condition below, and the methods utilized to mitigate emissions and restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
47. The EPA Regional Administrator, the head of the State Air Pollution Control Agency, the head of the responsible local Air Pollution Control Agency, and/or their authorized representative, upon the presentation of credentials, shall be permitted: A. to enter the premises where the source is located or where any records are required to be kept under the terms and conditions of this Authority to Construct; and B. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Authority to Construct; and C. to inspect any equipment, operation, or method required in this Authority to Construct; and D. to sample emissions from the source(s). [PSD SJ 78-17] Federally Enforceable Through Title V Permit
48. In the event of any changes in control or ownership of the facilities to be constructed, the Authority to Construct shall be binding on all subsequent owners and operators. The applicant shall notify the succeeding owner and operator of the existence of this Authority to Construct and its conditions by letter, a copy of which shall be forwarded to the EPA Regional Administrator and the State and local Air Pollution Control Agency. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
49. The provisions of this Authority to Construct are severable, and, if any provision of the Authority to Construct is held invalid, the remainder of this Authority to Construct shall not be affected thereby. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
50. The owner and operator of the proposed facility shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60, and 61 and all other applicable federal, state, and local air quality regulations. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
51. Permittee shall consume no more than 6290 barrels per day of oil on a daily maximum average and no more than 5700 barrels per day of oil on an annual average basis. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
52. The sulfur content of the fuel shall be no greater than 1.5% by weight on a daily maximum average and no greater than 1.5% by weight on an annual average basis, as determined by ASTM Methods D115-68, D129-64, or D151-64, or equivalent methods approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
53. The amount of fuel burned and the sulfur content of the fuel shall be recorded in a permanent record and shall be available for periodic inspection by the District, the California Air Resource Board, and the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

54. Permittee shall have installed operable scrubbers on the equipment. Exhaust gases from the generators shall be ducted through operable scrubbers. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
55. Permittee shall not discharge into the atmosphere SO<sub>2</sub> in excess of 0.063 lbs/MMBtu. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
56. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance tests for SO<sub>2</sub>, and furnish the District and the EPA a written report of the results of such tests. The tests for SO<sub>2</sub> shall be conducted on an annual basis. The performance tests shall be conducted for each scrubber required for the generator. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
57. Permittee shall not discharge into the atmosphere NO<sub>x</sub> in excess of 0.277 lb/MMBtu (maximum 2-hour average). [PSD SJ 78-17] Federally Enforceable Through Title V Permit
58. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance test for NO<sub>x</sub>, and furnish the District and the EPA written report of the results of such tests. The tests for NO<sub>x</sub> shall be conducted on an annual basis and at the maximum operating capacity of the facilities being tested. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
59. Permittee shall install and operate ammonia injection equipment to control nitrogen oxide emissions on the steam generator. This condition may be amended if other control technologies are determined by EPA to satisfy BACT requirements, in accordance with the periodic BACT review procedure below. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
60. Permittee shall submit updated Best Available Control Technology (BACT) proposals every six months. Based on the information submitted and on other information which is available at that time, EPA may impose more stringent emission limits for NO<sub>x</sub>. In no event shall EPA set a higher emission limit for NO<sub>x</sub>. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
61. Performance tests for the emission of NO<sub>x</sub> and SO<sub>2</sub> shall be conducted and results reported in accordance with the methods set forth in Parts 60.8 and 60.46 of the Standards of Performance for New Sources. The EPA shall be notified at least 30 days in advance of such test to allow an observer to be present. In lieu of the above mentioned test methods, equivalent methods may be used if approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1141-48-24

**ISSUANCE DATE:** 01/11/2007

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** NW17 **TOWNSHIP:** 32S **RANGE:** 23E

### EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS NATURAL GAS-FIRED STEAM GENERATOR #95 (SN 80-37387-4, NB 967, DIS 12810-85) WITH A NORTH AMERICAN BURNER WITH FLUE GAS RECIRCULATION (FGR) AND AN O2 ANALYZER/CONTROLLER: REMOVE DORMANT EMISSION UNIT STATUS, TRANSFER LOCATION, REPLACE/MODIFY RADIANT AND CONVECTION SECTIONS, AND REPLACE BURNER WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER (OR DISTRICT-APPROVED EQUIVALENT) TO ACHIEVE 15 PPMVD-NOX @ 3% O2 FOR RULE 4306 COMPLIANCE (RENEWED ONE TIME- 1/29/09, RUE)

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This generator is permitted to operate at the following locations: Sections 17, 21 and 26 of Township 32S, Range 23E. [District NSR Rule] Federally Enforceable Through Title V Permit
4. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Sayed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1141-48-24 : Dec 31 2009 2:52PM - RINALDIR - Joint Inspection NOT Required

5. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
6. The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
9. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
11. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
12. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
13. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.3.2 and County Rules 404 (Madera), 406 (Fresno), and 407 (Kern, Kings, Merced, San Joaquin, Stanislaus, and Tulare)] Federally Enforceable Through Title V Permit
14. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
15. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

16. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
17. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
18. This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351 (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
19. If continuous operation oxygen analyzer/controller is utilized, excess O<sub>2</sub> shall be maintained between 0.5 and 3.0%. If not utilized, excess air shall be maintained at no less than 15%. [District NSR Rule] Federally Enforceable Through Title V Permit
20. Emission rates shall not exceed any of the following: PM<sub>10</sub>: 0.005 lb/MMBtu, SO<sub>x</sub> (as S): 0.001 lb/MMBTU, VOC: 0.003 lb/MMBtu or CO: 25 ppmvd @ 3% O<sub>2</sub>. [District Rules 2201, 4305, and 4306] Federally Enforceable Through Title V Permit
21. Except during start-up and shutdown periods NO<sub>x</sub> emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.0182 lb-NO<sub>x</sub>/MMBtu. [District Rule 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
22. Emissions of NO<sub>x</sub> shall not exceed 54.0 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
23. Source testing to measure NO<sub>x</sub> and CO emissions shall be conducted within 60 days of recommencing operation of this unit. [District Rule 4305] Federally Enforceable Through Title V Permit
24. Source testing to demonstrate compliance with NO<sub>x</sub> and CO emission limits shall be conducted not less than once every 12 months, except as provided below. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
25. Source testing to demonstrate compliance with NO<sub>x</sub> and CO emission limits shall be conducted not less than once every 36 months if compliance is demonstrated on two consecutive annual tests. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
26. If permittee fails any compliance demonstration for NO<sub>x</sub> and CO emission limits when testing not less than once every 36 months, compliance with NO<sub>x</sub> and CO emission limits shall be demonstrated not less than once every 12 months. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
27. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NO<sub>x</sub> and CO source testing requirement. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
28. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
29. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
30. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
31. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, and stack gas oxygen - EPA Method 3 or 3A or ARB Method 100. [District Rules 1081, and 4305] Federally Enforceable Through Title V Permit
32. Permittee shall maintain records of fuel hhv and cumulative annual fuel use for a period of five years and shall make such records readily available for District inspection upon request. [District Rule 4305 and 2520, 9.4.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE



33. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306]
34. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305 and 4306]
35. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306]
36. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306]
37. The portable analyzer shall be calibrated prior to each use with a two-point calibration method (zero and span). Calibration shall be performed with certified calibration gases. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (Amended December 16, 1993), of 3 thirty-minute test runs for NO<sub>x</sub> and CO. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
39. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
40. The following conditions must be met for representative unit(s) to be used to test for NO<sub>x</sub> limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
41. All units in a group for which representative units are source for NO<sub>x</sub> emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

42. All units in a group for which representative units are source tested for NOx emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
43. The number of representative units source tested for NOx emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
44. The unit shall only be fired on natural gas. [District Rule 2201]
45. As required by PSD permit number SJ 78-17 when firing on oil, all equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this Authority to Construct shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
46. As required by PSD permit number SJ 78-17 when firing on oil, the EPA Regional Administrator shall be notified by telephone, facsimile, or electronic mail transmission within two (2) working days following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in the condition below. In addition, the Regional Administrator shall be notified in writing within fifteen (15) days of any such failure. The notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the condition below, and the methods utilized to mitigate emissions and restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
47. As required by PSD permit number SJ 78-17 when firing on oil, the EPA Regional Administrator, the head of the State Air Pollution Control Agency, the head of the responsible local Air Pollution Control Agency, and/or their authorized representative, upon the presentation of credentials, shall be permitted: A. to enter the premises where the source is located or where any records are required to be kept under the terms and conditions of this Authority to Construct; and B. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Authority to Construct; and C. to inspect any equipment, operation, or method required in this Authority to Construct; and D. to sample emissions from the source(s). [PSD SJ 78-17] Federally Enforceable Through Title V Permit
48. As required by PSD permit number SJ 78-17 when firing on oil, in the event of any changes in control or ownership of the facilities to be constructed, the Authority to Construct shall be binding on all subsequent owners and operators. The applicant shall notify the succeeding owner and operator of the existence of this Authority to Construct and its conditions by letter, a copy of which shall be forwarded to the EPA Regional Administrator and the State and local Air Pollution Control Agency. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
49. As required by PSD permit number SJ 78-17 when firing on oil, the provisions of this Authority to Construct are severable, and, if any provision of the Authority to Construct is held invalid, the remainder of this Authority to Construct shall not be affected thereby. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
50. As required by PSD permit number SJ 78-17 when firing on oil, the owner and operator of the proposed facility shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60, and 61 and all other applicable federal, state, and local air quality regulations. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
51. As required by PSD permit number SJ 78-17 when firing on oil, permittee shall consume no more than 6290 barrels per day of oil on a daily maximum average and no more than 5700 barrels per day of oil on an annual average basis. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
52. As required by PSD permit number SJ 78-17 when firing on oil, the sulfur content of the fuel shall be no greater than 1.5% by weight on a daily maximum average and no greater than 1.5% by weight on an annual average basis, as determined by ASTM Methods D115-68, D129-64, or D151-64, or equivalent methods approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

53. As required by PSD permit number SJ 78-17 when firing on oil, the amount of fuel burned and the sulfur content of the fuel shall be recorded in a permanent record and shall be available for periodic inspection by the District, the California Air Resource Board, and the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
54. As required by PSD permit number SJ 78-17 when firing on oil, permittee shall have installed operable scrubbers on the equipment. Exhaust gases from the generators shall be ducted through operable scrubbers. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
55. As required by PSD permit number SJ 78-17 when firing on oil, permittee shall not discharge into the atmosphere SO<sub>2</sub> in excess of 0.063 lbs/MMBtu. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
56. As required by PSD permit number SJ 78-17 when firing on oil, within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance tests for SO<sub>2</sub>, and furnish the District and the EPA a written report of the results of such tests. The tests for SO<sub>2</sub> shall be conducted on an annual basis. The performance tests shall be conducted for each scrubber required for the generator. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
57. As required by PSD permit number SJ 78-17 when firing on oil, permittee shall not discharge into the atmosphere NO<sub>x</sub> in excess of 0.277 lb/MMBtu (maximum 2-hour average). [PSD SJ 78-17] Federally Enforceable Through Title V Permit
58. As required by PSD permit number SJ 78-17 when firing on oil, within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance test for NO<sub>x</sub>, and furnish the District and the EPA written report of the results of such tests. The tests for NO<sub>x</sub> shall be conducted on an annual basis and at the maximum operating capacity of the facilities being tested. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
59. As required by PSD permit number SJ 78-17 when firing on oil, permittee shall install and operate ammonia injection equipment to control nitrogen oxide emissions on the steam generator. This condition may be amended if other control technologies are determined by EPA to satisfy BACT requirements, in accordance with the periodic BACT review procedure below. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
60. As required by PSD permit number SJ 78-17 when firing on oil, permittee shall submit updated Best Available Control Technology (BACT) proposals every six months. Based on the information submitted and on other information which is available at that time, EPA may impose more stringent emission limits for NO<sub>x</sub>. In no event shall EPA set a higher emission limit for NO<sub>x</sub>. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
61. As required by PSD permit number SJ 78-17 when firing on oil, performance tests for the emission of NO<sub>x</sub> and SO<sub>2</sub> shall be conducted and results reported in accordance with the methods set forth in Parts 60.8 and 60.46 of the Standards of Performance for New Sources. The EPA shall be notified at least 30 days in advance of such test to allow an observer to be present. In lieu of the above mentioned test methods, equivalent methods may be used if approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1141-49-24

**ISSUANCE DATE:** 01/11/2007

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** NW17 **TOWNSHIP:** 32S **RANGE:** 23E

### EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS NATURAL GAS-FIRED STEAM GENERATOR #95 (SN 80-37387-4, NB 967, DIS 12810-85) WITH A NORTH AMERICAN BURNER WITH FLUE GAS RECIRCULATION (FGR) AND AN O<sub>2</sub> ANALYZER/CONTROLLER: REMOVE DORMANT EMISSION UNIT STATUS, TRANSFER LOCATION, REPLACE/MODIFY RADIANT AND CONVECTION SECTIONS, AND REPLACE BURNER WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER (OR DISTRICT-APPROVED EQUIVALENT) TO ACHIEVE 15 PPMVD-NOX @ 3% O<sub>2</sub> FOR RULE 4306 COMPLIANCE (RENEWED ONE TIME- 1/29/09, RUE)

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This generator is permitted to operate at the following locations: Sections 17, 21 and 26 of Township 32S, Range 23E. [District NSR Rule] Federally Enforceable Through Title V Permit
4. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1141-49-24 : Dec 31 2009 2:52PM - RINALDIR : Joint Inspection NOT Required

5. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
6. The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
9. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
11. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
12. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
13. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.3.2 and County Rules 404 (Madera), 406 (Fresno), and 407 (Kern, Kings, Merced, San Joaquin, Stanislaus, and Tulare)] Federally Enforceable Through Title V Permit
14. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
15. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

16. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
17. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
18. This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351 (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
19. If continuous operation oxygen analyzer/controller is utilized, excess O<sub>2</sub> shall be maintained between 0.5 and 3.0%. If not utilized, excess air shall be maintained at no less than 15%. [District NSR Rule] Federally Enforceable Through Title V Permit
20. Emission rates shall not exceed any of the following: PM<sub>10</sub>: 0.005 lb/MMBtu, SO<sub>x</sub> (as S): 0.001 lb/MMBTU, VOC: 0.003 lb/MMBtu or CO: 25 ppmvd @ 3% O<sub>2</sub>. [District Rules 2201, 4305, and 4306] Federally Enforceable Through Title V Permit
21. Except during start-up and shutdown periods NO<sub>x</sub> emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.0182 lb-NO<sub>x</sub>/MMBtu. [District Rule 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
22. Emissions of NO<sub>x</sub> shall not exceed 54.0 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
23. Source testing to measure NO<sub>x</sub> and CO emissions shall be conducted within 60 days of recommencing operation of this unit. [District Rule 4305] Federally Enforceable Through Title V Permit
24. Source testing to demonstrate compliance with NO<sub>x</sub> and CO emission limits shall be conducted not less than once every 12 months, except as provided below. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
25. Source testing to demonstrate compliance with NO<sub>x</sub> and CO emission limits shall be conducted not less than once every 36 months if compliance is demonstrated on two consecutive annual tests. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
26. If permittee fails any compliance demonstration for NO<sub>x</sub> and CO emission limits when testing not less than once every 36 months, compliance with NO<sub>x</sub> and CO emission limits shall be demonstrated not less than once every 12 months. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
27. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NO<sub>x</sub> and CO source testing requirement. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
28. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
29. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
30. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
31. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, and stack gas oxygen - EPA Method 3 or 3A or ARB Method 100. [District Rules 1081 and 4305] Federally Enforceable Through Title V Permit
32. Permittee shall maintain records of fuel hhv and cumulative annual fuel use for a period of five years and shall make such records readily available for District inspection upon request. [District Rule 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306]
34. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305 and 4306]
35. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306]
36. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306]
37. The portable analyzer shall be calibrated prior to each use with a two-point calibration method (zero and span). Calibration shall be performed with certified calibration gases. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (Amended December 16, 1993), of 3 thirty-minute test runs for NO<sub>x</sub> and CO. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
39. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
40. The following conditions must be met for representative unit(s) to be used to test for NO<sub>x</sub> limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
41. All units in a group for which representative units are source for NO<sub>x</sub> emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

42. All units in a group for which representative units are source tested for NOx emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
43. The number of representative units source tested for NOx emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
44. The unit shall only be fired on natural gas. [District Rule 2201]
45. As required by PSD permit number SJ 78-17 when firing on oil, all equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this Authority to Construct shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
46. As required by PSD permit number SJ 78-17 when firing on oil, the EPA Regional Administrator shall be notified by telephone, facsimile, or electronic mail transmission within two (2) working days following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in the condition below. In addition, the Regional Administrator shall be notified in writing within fifteen (15) days of any such failure. The notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the condition below, and the methods utilized to mitigate emissions and restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
47. As required by PSD permit number SJ 78-17 when firing on oil, the EPA Regional Administrator, the head of the State Air Pollution Control Agency, the head of the responsible local Air Pollution Control Agency, and/or their authorized representative, upon the presentation of credentials, shall be permitted: A. to enter the premises where the source is located or where any records are required to be kept under the terms and conditions of this Authority to Construct; and B. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Authority to Construct; and C. to inspect any equipment, operation, or method required in this Authority to Construct; and D. to sample emissions from the source(s). [PSD SJ 78-17] Federally Enforceable Through Title V Permit
48. As required by PSD permit number SJ 78-17 when firing on oil, in the event of any changes in control or ownership of the facilities to be constructed, the Authority to Construct shall be binding on all subsequent owners and operators. The applicant shall notify the succeeding owner and operator of the existence of this Authority to Construct and its conditions by letter, a copy of which shall be forwarded to the EPA Regional Administrator and the State and local Air Pollution Control Agency. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
49. As required by PSD permit number SJ 78-17 when firing on oil, the provisions of this Authority to Construct are severable, and, if any provision of the Authority to Construct is held invalid, the remainder of this Authority to Construct shall not be affected thereby. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
50. As required by PSD permit number SJ 78-17 when firing on oil, the owner and operator of the proposed facility shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60, and 61 and all other applicable federal, state, and local air quality regulations. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
51. As required by PSD permit number SJ 78-17 when firing on oil, permittee shall consume no more than 6290 barrels per day of oil on a daily maximum average and no more than 5700 barrels per day of oil on an annual average basis. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
52. As required by PSD permit number SJ 78-17 when firing on oil, the sulfur content of the fuel shall be no greater than 1.5% by weight on a daily maximum average and no greater than 1.5% by weight on an annual average basis, as determined by ASTM Methods D115-68, D129-64, or D151-64, or equivalent methods approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE



53. As required by PSD permit number SJ 78-17 when firing on oil, the amount of fuel burned and the sulfur content of the fuel shall be recorded in a permanent record and shall be available for periodic inspection by the District, the California Air Resource Board, and the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
54. As required by PSD permit number SJ 78-17 when firing on oil, permittee shall have installed operable scrubbers on the equipment. Exhaust gases from the generators shall be ducted through operable scrubbers. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
55. As required by PSD permit number SJ 78-17 when firing on oil, permittee shall not discharge into the atmosphere SO<sub>2</sub> in excess of 0.063 lbs/MMBtu. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
56. As required by PSD permit number SJ 78-17 when firing on oil, within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance tests for SO<sub>2</sub>, and furnish the District and the EPA a written report of the results of such tests. The tests for SO<sub>2</sub> shall be conducted on an annual basis. The performance tests shall be conducted for each scrubber required for the generator. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
57. As required by PSD permit number SJ 78-17 when firing on oil, permittee shall not discharge into the atmosphere NO<sub>x</sub> in excess of 0.277 lb/MMBtu (maximum 2-hour average). [PSD SJ 78-17] Federally Enforceable Through Title V Permit
58. As required by PSD permit number SJ 78-17 when firing on oil, within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance test for NO<sub>x</sub>, and furnish the District and the EPA written report of the results of such tests. The tests for NO<sub>x</sub> shall be conducted on an annual basis and at the maximum operating capacity of the facilities being tested. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
59. As required by PSD permit number SJ 78-17 when firing on oil, permittee shall install and operate ammonia injection equipment to control nitrogen oxide emissions on the steam generator. This condition may be amended if other control technologies are determined by EPA to satisfy BACT requirements, in accordance with the periodic BACT review procedure below. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
60. As required by PSD permit number SJ 78-17 when firing on oil, permittee shall submit updated Best Available Control Technology (BACT) proposals every six months. Based on the information submitted and on other information which is available at that time, EPA may impose more stringent emission limits for NO<sub>x</sub>. In no event shall EPA set a higher emission limit for NO<sub>x</sub>. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
61. As required by PSD permit number SJ 78-17 when firing on oil, performance tests for the emission of NO<sub>x</sub> and SO<sub>2</sub> shall be conducted and results reported in accordance with the methods set forth in Parts 60.8 and 60.46 of the Standards of Performance for New Sources. The EPA shall be notified at least 30 days in advance of such test to allow an observer to be present. In lieu of the above mentioned test methods, equivalent methods may be used if approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1141-50-22

**ISSUANCE DATE:** 01/11/2007

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** NW17 **TOWNSHIP:** 32S **RANGE:** 23E

### EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS NATURAL GAS-FIRED STEAM GENERATOR #95 (SN 80-37387-4, NB 967, DIS 12810-85) WITH A NORTH AMERICAN BURNER WITH FLUE GAS RECIRCULATION (FGR) AND AN O2 ANALYZER/CONTROLLER: REMOVE DORMANT EMISSION UNIT STATUS, TRANSFER LOCATION, REPLACE/MODIFY RADIANT AND CONVECTION SECTIONS, AND REPLACE BURNER WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER (OR DISTRICT-APPROVED EQUIVALENT) TO ACHIEVE 15 PPMVD-NOX @ 3% O2 FOR RULE 4306 COMPLIANCE (RENEWED ONE TIME- 1/29/09, RUE)

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
4. This generator is permitted to operate at the following locations: Sections 17, 21 and 26 of Township 32S, Range 23E. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1141-50-22 : Dec 31 2009 2:53PM -- RINALDIR : Joint Inspection NOT Required

5. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
6. The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
9. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
11. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
12. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
13. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.3.2 and County Rules 404 (Madera), 406 (Fresno), and 407 (Kern, Kings, Merced, San Joaquin, Stanislaus, and Tulare)] Federally Enforceable Through Title V Permit
14. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
15. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

16. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
17. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
18. This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351 (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
19. If continuous operation oxygen analyzer/controller is utilized, excess O<sub>2</sub> shall be maintained between 0.5 and 3.0%. If not utilized, excess air shall be maintained at no less than 15%. [District NSR Rule] Federally Enforceable Through Title V Permit
20. Emission rates shall not exceed any of the following: PM<sub>10</sub>: 0.005 lb/MMBtu, SO<sub>x</sub> (as S): 0.001 lb/MMBTU, VOC: 0.003 lb/MMBtu or CO: 25 ppmvd @ 3% O<sub>2</sub>. [District Rules 2201, 4305, and 4306] Federally Enforceable Through Title V Permit
21. Except during start-up and shutdown periods NO<sub>x</sub> emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.0182 lb-NO<sub>x</sub>/MMBtu. [District Rule 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
22. Emissions of NO<sub>x</sub> shall not exceed 54.0 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
23. Source testing to demonstrate compliance with NO<sub>x</sub> and CO emission limits shall be conducted within 60 days of startup. [District Rule 2201] Federally Enforceable Through Title V Permit
24. Source testing to demonstrate compliance with NO<sub>x</sub> and CO emission limits shall be conducted not less than once every 12 months, except as provided below. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
25. Source testing to demonstrate compliance with NO<sub>x</sub> and CO emission limits shall be conducted not less than once every 36 months if compliance is demonstrated on two consecutive annual tests. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
26. If permittee fails any compliance demonstration for NO<sub>x</sub> and CO emission limits when testing not less than once every 36 months, compliance with NO<sub>x</sub> and CO emission limits shall be demonstrated not less than once every 12 months. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
27. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NO<sub>x</sub> and CO source testing requirement. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
28. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
29. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
30. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
31. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, and stack gas oxygen - EPA Method 3 or 3A or ARB Method 100. [District Rules 1081 and 4305] Federally Enforceable Through Title V Permit
32. Permittee shall maintain records of fuel hhv and cumulative annual fuel use for a period of five years and shall make such records readily available for District inspection upon request. [District Rule 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306]
34. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305 and 4306]
35. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306]
36. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306]
37. The portable analyzer shall be calibrated prior to each use with a two-point calibration method (zero and span). Calibration shall be performed with certified calibration gases. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (Amended December 16, 1993), of 3 thirty-minute test runs for NO<sub>x</sub> and CO. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
39. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
40. The following conditions must be met for representative unit(s) to be used to test for NO<sub>x</sub> limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
41. All units in a group for which representative units are source for NO<sub>x</sub> emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

42. All units in a group for which representative units are source tested for NOx emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
43. The number of representative units source tested for NOx emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
44. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this Authority to Construct shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
45. The EPA Regional Administrator shall be notified by telephone, facsimile, or electronic mail transmission within two (2) working days following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in the condition below. In addition, the Regional Administrator shall be notified in writing within fifteen (15) days of any such failure. The notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the condition below, and the methods utilized to mitigate emissions and restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
46. The EPA Regional Administrator, the head of the State Air Pollution Control Agency, the head of the responsible local Air Pollution Control Agency, and/or their authorized representative, upon the presentation of credentials, shall be permitted: A. to enter the premises where the source is located or where any records are required to be kept under the terms and conditions of this Authority to Construct; and B. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Authority to Construct; and C. to inspect any equipment, operation, or method required in this Authority to Construct; and D. to sample emissions from the source(s). [PSD SJ 78-17] Federally Enforceable Through Title V Permit
47. In the event of any changes in control or ownership of the facilities to be constructed, the Authority to Construct shall be binding on all subsequent owners and operators. The applicant shall notify the succeeding owner and operator of the existence of this Authority to Construct and its conditions by letter, a copy of which shall be forwarded to the EPA Regional Administrator and the State and local Air Pollution Control Agency. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
48. The provisions of this Authority to Construct are severable, and, if any provision of the Authority to Construct is held invalid, the remainder of this Authority to Construct shall not be affected thereby. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
49. The owner and operator of the proposed facility shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60, and 61 and all other applicable federal, state, and local air quality regulations. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
50. Permittee shall consume no more than 6290 barrels per day of oil on a daily maximum average and no more than 5700 barrels per day of oil on an annual average basis. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
51. The sulfur content of the fuel shall be no greater than 1.5% by weight on a daily maximum average and no greater than 1.5% by weight on an annual average basis, as determined by ASTM Methods D115-68, D129-64, or D151-64, or equivalent methods approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
52. The amount of fuel burned and the sulfur content of the fuel shall be recorded in a permanent record and shall be available for periodic inspection by the District, the California Air Resource Board, and the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
53. Permittee shall have installed operable scrubbers on the equipment. Exhaust gases from the generators shall be ducted through operable scrubbers. [PSD SJ 78-17] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

54. Permittee shall not discharge into the atmosphere SO<sub>2</sub> in excess of 0.063 lbs/MMBtu. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
55. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance tests for SO<sub>2</sub>, and furnish the District and the EPA a written report of the results of such tests. The tests for SO<sub>2</sub> shall be conducted on an annual basis. The performance tests shall be conducted for each scrubber required for the generator. [District Rule] Federally Enforceable Through Title V Permit
56. Permittee shall not discharge into the atmosphere NO<sub>x</sub> in excess of 0.277 lb/MMBtu (maximum 2-hour average). [PSD SJ 78-17] Federally Enforceable Through Title V Permit
57. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance test for NO<sub>x</sub>, and furnish the District and the EPA written report of the results of such tests. The tests for NO<sub>x</sub> shall be conducted on an annual basis and at the maximum operating capacity of the facilities being tested. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
58. Permittee shall install and operate ammonia injection equipment to control nitrogen oxide emissions on the steam generator. This condition may be amended if other control technologies are determined by EPA to satisfy BACT requirements, in accordance with the periodic BACT review procedure below. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
59. Permittee shall submit updated Best Available Control Technology (BACT) proposals every six months. Based on the information submitted and on other information which is available at that time, EPA may impose more stringent emission limits for NO<sub>x</sub>. In no event shall EPA set a higher emission limit for NO<sub>x</sub>. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
60. Performance tests for the emission of NO<sub>x</sub> and SO<sub>2</sub> shall be conducted and results reported in accordance with the methods set forth in Parts 60.8 and 60.46 of the Standards of Performance for New Sources. The EPA shall be notified at least 30 days in advance of such test to allow an observer to be present. In lieu of the above mentioned test methods, equivalent methods may be used if approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit

# San Joaquin Valley Air Pollution Control District

**PERMIT UNIT:** S-1141-51-24

**EXPIRATION DATE:** 02/28/2006

**SECTION:** NW17 **TOWNSHIP:** 32S **RANGE:** 23E

**EQUIPMENT DESCRIPTION:**

62.5 MMBTU/HR C. E. NATCO NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR #99 (SN T-6718101-08, NB 130, DIS 20640-79) WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER WITH FLUE GAS RECIRCULATION (FGR) AND AN O2 ANALYZER/CONTROLLER

## PERMIT UNIT REQUIREMENTS

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1. This generator is permitted to operate at the following locations: Sections 17, 21 and 26 of Township 32S, Range 23E. [District NSR Rule] Federally Enforceable Through Title V Permit
2. All required source testing shall conform to the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
3. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
4. The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
6. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
7. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
8. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.



9. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
11. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO2. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
12. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201, and 4301. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
13. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
14. This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351(Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
15. If continuous operation oxygen analyzer/controller is utilized, excess O2 shall be maintained between 0.5 and 3.0%. If not utilized, excess air shall be maintained at no less than 15%. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Emission rates shall not exceed any of the following: PM10: 0.005 lb/MMBtu, SOx (as S): 0.001 lb/MMBTU, VOC: 0.003 lb/MMBtu or CO: 25 ppmvd @ 3% O2. [District Rules 2201, 4305, and 4306] Federally Enforceable Through Title V Permit
17. Except during start-up and shutdown periods NOx emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.0182 lb-NOx/MMBtu. [District Rule 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
18. Emissions of NOx shall not exceed 54.0 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Source testing to demonstrate compliance with NOx and CO emission limits shall be conducted not less than once every 12 months, except as provided below. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
20. Source testing to demonstrate compliance with NOx and CO emission limits shall be conducted not less than once every 36 months if compliance is demonstrated on two consecutive annual tests. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
21. If permittee fails any compliance demonstration for NOx and CO emission limits when testing not less than once every 36 months, compliance with NOx and CO emission limits shall be demonstrated not less than once every 12 months. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
22. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NOx and CO source testing requirement. [District Rule 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
23. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
24. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

25. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
26. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, and stack gas oxygen - EPA Method 3 or 3A or ARB Method 100. [District Rules 1081 and 4305] Federally Enforceable Through Title V Permit
27. Permittee shall maintain records of fuel hhv and cumulative annual fuel use for a period of five years and shall make such records readily available for District inspection upon request. [District Rule 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit
28. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306]
29. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305 and 4306]
30. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306]
31. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306]
32. The portable analyzer shall be calibrated prior to each use with a two-point calibration method (zero and span). Calibration shall be performed with certified calibration gases. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
33. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (Amended December 16, 1993), of 3 thirty-minute test runs for NO<sub>x</sub> and CO. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
34. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

35. The following conditions must be met for representative unit(s) to be used to test for NOx limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
36. All units in a group for which representative units are source for NOx emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
37. All units in a group for which representative units are source tested for NOx emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
38. The number of representative units source tested for NOx emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
39. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this Authority to Construct shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
40. The EPA Regional Administrator shall be notified by telephone, facsimile, or electronic mail transmission within two (2) working days following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in the condition below. In addition, the Regional Administrator shall be notified in writing within fifteen (15) days of any such failure. The notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the condition below, and the methods utilized to mitigate emissions and restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
41. The EPA Regional Administrator, the head of the State Air Pollution Control Agency, the head of the responsible local Air Pollution Control Agency, and/or their authorized representative, upon the presentation of credentials, shall be permitted: A. to enter the premises where the source is located or where any records are required to be kept under the terms and conditions of this Authority to Construct; and B. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Authority to Construct; and C. to inspect any equipment, operation, or method required in this Authority to Construct; and D. to sample emissions from the source(s). [PSD SJ 78-17] Federally Enforceable Through Title V Permit
42. In the event of any changes in control or ownership of the facilities to be constructed, the Authority to Construct shall be binding on all subsequent owners and operators. The applicant shall notify the succeeding owner and operator of the existence of this Authority to Construct and its conditions by letter, a copy of which shall be forwarded to the EPA Regional Administrator and the State and local Air Pollution Control Agency. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
43. The provisions of this Authority to Construct are severable, and, if any provision of the Authority to Construct is held invalid, the remainder of this Authority to Construct shall not be affected thereby. [PSD SJ 78-17] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

44. The owner and operator of the proposed facility shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60, and 61 and all other applicable federal, state, and local air quality regulations. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
45. Permittee shall consume no more than 6290 barrels per day of oil on a daily maximum average and no more than 5700 barrels per day of oil on an annual average basis. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
46. The sulfur content of the fuel shall be no greater than 1.5% by weight on a daily maximum average and no greater than 1.5% by weight on an annual average basis, as determined by ASTM Methods D115-68, D129-64, or D151-64, or equivalent methods approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
47. The amount of fuel burned and the sulfur content of the fuel shall be recorded in a permanent record and shall be available for periodic inspection by the District, the California Air Resource Board, and the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
48. Permittee shall have installed operable scrubbers on the equipment. Exhaust gases from the generators shall be ducted through operable scrubbers. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
49. Permittee shall not discharge into the atmosphere SO<sub>2</sub> in excess of 0.063 lbs/MMBtu. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
50. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance tests for SO<sub>2</sub>, and furnish the District and the EPA a written report of the results of such tests. The tests for SO<sub>2</sub> shall be conducted on an annual basis. The performance tests shall be conducted for each scrubber required for the generator. [District Rule] Federally Enforceable Through Title V Permit
51. Permittee shall not discharge into the atmosphere NO<sub>x</sub> in excess of 0.277 lb/MMBtu (maximum 2-hour average). [PSD SJ 78-17] Federally Enforceable Through Title V Permit
52. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance test for NO<sub>x</sub>, and furnish the District and the EPA written report of the results of such tests. The tests for NO<sub>x</sub> shall be conducted on an annual basis and at the maximum operating capacity of the facilities being tested. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
53. Permittee shall install and operate ammonia injection equipment to control nitrogen oxide emissions on the steam generator. This condition may be amended if other control technologies are determined by EPA to satisfy BACT requirements, in accordance with the periodic BACT review procedure below. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
54. Permittee shall submit updated Best Available Control Technology (BACT) proposals every six months. Based on the information submitted and on other information which is available at that time, EPA may impose more stringent emission limits for NO<sub>x</sub>. In no event shall EPA set a higher emission limit for NO<sub>x</sub>. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
55. Performance tests for the emission of NO<sub>x</sub> and SO<sub>2</sub> shall be conducted and results reported in accordance with the methods set forth in Parts 60.8 and 60.46 of the Standards of Performance for New Sources. The EPA shall be notified at least 30 days in advance of such test to allow an observer to be present. In lieu of the above mentioned test methods, equivalent methods may be used if approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1141-55-25

**ISSUANCE DATE:** 05/20/2005

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** NE22 **TOWNSHIP:** 31S **RANGE:** 22E

### EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS/TVC GAS-FIRED STRUTHERS STEAM GENERATOR WITH A NORTH AMERICAN BURNER WITH FGR, AN O2 CONTROLLER, SO2 SCRUBBER, AND VAPOR PIPING FROM TEOR AND TVC SYSTEMS (#105, SN 81-37411-16, NB 1027, DIS 39622-90): RETROFIT THE STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER OR JOHN ZINK COOLFUEL RETROFIT SYSTEM (OR DISTRICT APPROVED EQUIVALENT) TO ACHIEVE 15 PPMVD-NOX @ 3% O2 (0.0182 LB-NOX/MMBTU)

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Permits to Operate (PTOs) S-1128-22, -40, -41, -42, -43, -91, -155, -156, -158, -210, -342, -343, -344, -345, -346, -347, -348, -349, -350, -351, -353, -355, S-1129-57, -80, -82, -380, -381, and -859, S-1141-9, -11, -13, -18, -20, -25, -73, -391, -392, -394, -396, -403, -404, and -499 shall be cancelled not later than the date of initial operation of this modified emissions unit. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1141-55-25 : Apr 29 2010 4:25PM - RINALDIR : Joint Inspection NOT Required

4. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
5. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2010] Federally Enforceable Through Title V Permit
6. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
7. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
8. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4306 Emission Control Plan. [District Rule 4306, 6.4] Federally Enforceable Through Title V Permit
9. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
10. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
11. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
12. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [County Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus)] Federally Enforceable Through Title V Permit
13. Steam generator shall be equipped with the following operational instrumentation: fuel gas volume flowmeter, TEOR gas volume flowmeter, and TVC gas flowmeter. [District NSR Rule and 4305] Federally Enforceable Through Title V Permit
14. The scrubber shall be equipped with a differential pressure gauge to indicate the pressure drop across the unit. The gauge shall be maintained in good working condition at all times. [District NSR Rule] Federally Enforceable Through Title V Permit
15. Scrubber liquid supply (at inlet to scrubber) shall have an operational pressure indicator. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Scrubber liquid supply (at inlet to scrubber) shall have an operational flow meter. [District NSR Rule] Federally Enforceable Through Title V Permit
17. Scrubber sprays and/or nozzles shall be maintained as required to achieve compliance with emission limits. [District NSR Rule] Federally Enforceable Through Title V Permit
18. Dissolved and suspended solids and condensed organics shall not exceed 20% of the scrubbing stream. [District NSR Rule] Federally Enforceable Through Title V Permit
19. Scrubber stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA test methods. [District Rule 1081] Federally Enforceable Through Title V Permit
20. Scrubber shall be equipped with recirculation liquor pH indicator and pump discharge pressure indicator. [District NSR Rule] Federally Enforceable Through Title V Permit
21. Steam generator firebox convection section, scrubber bypass valve, and all flue gas ductwork shall have no detectible leaks. [District NSR Rule] Federally Enforceable Through Title V Permit
22. Scrubber recirculation liquor pH shall be maintained between 6.2 and 7.5. [District NSR Rule] Federally Enforceable Through Title V Permit
23. Scrubber recirculation liquor pH shall be maintained only with soda ash unless District approval is granted for substitution. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

24. Compliance with fuel sulfur limit(s) can be demonstrated either by monitoring sulfur content at location(s) after all fuel sources are combined prior to incineration, or by monitoring the sulfur content and volume of each fuel source and performing mass balance calculations. Records of monitoring locations, detected sulfur concentrations, and mass balance calculations, if necessary, shall be maintained and kept onsite and made readily available for District inspection upon request. [District Rule 1070]
25. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
26. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
27. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
28. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
29. Total sulfur content of natural gas combusted shall not exceed 0.75 grain/100 scf. [District NSR Rule] Federally Enforceable Through Title V Permit
30. Emissions from the steam generator shall not exceed any of the following limits: 0.080 lb-SO<sub>x</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
31. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.0182 lb-NO<sub>x</sub>/MMBtu or 51 ppmvd CO @ 3% O<sub>2</sub> or 0.0375 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
32. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
33. During the initial "shakedown" period emissions from the steam generator shall not exceed any of the following limits: 30 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.036 lb-NO<sub>x</sub>/MMBtu, 0.080 lb-SO<sub>x</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, 51 ppmvd CO @ 3% O<sub>2</sub> or 0.0375 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
34. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 30 ppmvd @ 3% O<sub>2</sub> or 0.036 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4306 compliance deadline selected for this unit. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
35. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

36. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
37. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 54.0 lb-NOx/day, 9,965 lb-NOx/yr, 56.3 lb-CO/day, and 20,531 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
38. Source testing to measure NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 6.3.1, and 4306, 6.3.1] Federally Enforceable Through Title V Permit
39. Source testing to measure NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1 and 4306, 6.3.1] Federally Enforceable Through Title V Permit
40. Whenever the unit is switched to scrubbed operation, compliance source testing for SOx shall be conducted within 60 days of initial scrubbing date unless source testing has occurred within the previous 12 months. [District Rule 1081] Federally Enforceable Through Title V Permit
41. If the unit is operated with the scrubber, compliance source testing for SOx shall be conducted not less than once every 12 months. [District Rule 1081] Federally Enforceable Through Title V Permit
42. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
43. If the steam generator is fired on PUC-regulated natural gas, then the permittee shall maintain on file copies of all natural gas bills or fuel throughput records for a period of five years. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
44. If the steam generator is not fired on PUC-regulated natural gas, then the sulfur content of the fuel gas being fired in the steam generator shall be determined using ASTM D 1072, D 3031, D 4084, D 3246, double GC for H2S and mercaptans, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
45. If the steam generator is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
46. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
47. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit

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48. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
49. NO<sub>x</sub> emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
50. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
51. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
52. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
53. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
54. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 5.5.2 and 4306, 5.5.2] Federally Enforceable Through Title V Permit
55. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
56. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
57. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
58. The following conditions must be met for representative unit(s) to be used to test for NO<sub>x</sub> and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
59. All units in a group for which representative units are source tested for NO<sub>x</sub> and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit

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60. All units in a group for which representative units are source tested for NO<sub>x</sub> and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
61. The number of representative units source tested for NO<sub>x</sub> and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
62. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1] Federally Enforceable Through Title V Permit
63. Copies of all gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any non-certified fuel. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
64. Permittee shall maintain with the permit a current listing of all TEOR and TVC gas systems providing vapors to this steam generator and shall make such listing readily available for District inspection upon request [District NSR Rule] Federally Enforceable Through Title V Permit
65. Permittee shall maintain daily records of volume of fuel gas burned, TEOR and TVC gas incinerated, and permit number(s) of systems providing gas for incineration. [District NSR Rule] Federally Enforceable Through Title V Permit
66. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit
67. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
68. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
69. This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351 (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
70. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this Authority to Construct shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
71. The EPA Regional Administrator shall be notified by telephone, facsimile, or electronic mail transmission within two (2) working days following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in the condition below. In addition, the Regional Administrator shall be notified in writing within fifteen (15) days of any such failure. The notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the condition below, and the methods utilized to mitigate emissions and restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 78-17] Federally Enforceable Through Title V Permit

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72. The EPA Regional Administrator, the head of the State Air Pollution Control Agency, the head of the responsible local Air Pollution Control Agency, and/or their authorized representative, upon the presentation of credentials, shall be permitted: A. to enter the premises where the source is located or where any records are required to be kept under the terms and conditions of this Authority to Construct; and B. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Authority to Construct; and C. to inspect any equipment, operation, or method required in this Authority to Construct; and D. to sample emissions from the source(s). [PSD SJ 78-17] Federally Enforceable Through Title V Permit
73. In the event of any changes in control or ownership of the facilities to be constructed, the Authority to Construct shall be binding on all subsequent owners and operators. The applicant shall notify the succeeding owner and operator of the existence of this Authority to Construct and its conditions by letter, a copy of which shall be forwarded to the EPA Regional Administrator and the State and local Air Pollution Control Agency. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
74. The provisions of this Authority to Construct are severable, and, if any provision of the Authority to Construct is held invalid, the remainder of this Authority to Construct shall not be affected thereby. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
75. The owner and operator of the proposed facility shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60, and 61 and all other applicable federal, state, and local air quality regulations. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
76. Permittee shall consume no more than 6,290 barrels per day of oil on a daily maximum average and no more than 5,700 barrels per day of oil on an annual average basis. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
77. The sulfur content of the fuel shall be no greater than 1.5% by weight on a daily maximum average and no greater than 1.5% by weight on an annual average basis, as determined by ASTM Methods D115-68, D129-64, or D151-64, or equivalent methods approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
78. The amount of fuel burned and the sulfur content of the fuel shall be recorded in a permanent record and shall be available for periodic inspection by the District, the California Air Resource Board, and the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
79. Permittee shall have installed an operable scrubber on the equipment. Exhaust gases from the generator shall be ducted through an operable scrubber. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
80. Permittee shall not discharge into the atmosphere SO<sub>2</sub> in excess of 0.063 lbs/MMBtu. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
81. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance tests for SO<sub>2</sub>, and furnish the District and the EPA a written report of the results of such tests. The tests for SO<sub>2</sub> shall be conducted on an annual basis. The performance tests shall be conducted for each scrubber required for the generator. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
82. Permittee shall not discharge into the atmosphere NO<sub>x</sub> in excess of 0.277 lb/MMBtu (maximum 2-hour average). [PSD SJ 78-17] Federally Enforceable Through Title V Permit
83. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance test for NO<sub>x</sub>, and furnish the District and the EPA written report of the results of such tests. The tests for NO<sub>x</sub> shall be conducted on an annual basis and at the maximum operating capacity of the facilities being tested. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
84. Permittee shall install and operate ammonia injection equipment to control nitrogen oxide emissions on the steam generator. This condition may be amended if other control technologies are determined by EPA to satisfy BACT requirements, in accordance with the periodic BACT review procedure below. [PSD SJ 78-17] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

85. Permittee shall submit updated Best Available Control Technology (BACT) proposals every six months. Based on the information submitted and on other information which is available at that time, EPA may impose more stringent emission limits for NO<sub>x</sub>. In no event shall EPA set a higher emission limit for NO<sub>x</sub>. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
86. Performance tests for the emission of NO<sub>x</sub> and SO<sub>2</sub> shall be conducted and results reported in accordance with the methods set forth in Parts 60.8 and 60.46 of the Standards of Performance for New Sources. The EPA shall be notified at least 30 days in advance of such test to allow an observer to be present. In lieu of the above mentioned test methods, equivalent methods may be used if approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1141-60-25

**ISSUANCE DATE:** 05/20/2005

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** NE22 **TOWNSHIP:** 31S **RANGE:** 22E

### EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR/TVC GAS-FIRED STRUTHERS STEAM GENERATOR WITH A NORTH AMERICAN BURNER WITH FGR, AN O2 CONTROLLER, SO2 SCRUBBER, AND VAPOR PIPING FROM TEOR SYSTEMS AND TVC SYSTEMS (#112, SN 81-37411-12, NB 1022, DIS 39623-90): RETROFIT THE STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER OR JOHN ZINK COOLFUEL RETROFIT SYSTEM (OR DISTRICT APPROVED EQUIVALENT) TO ACHIEVE 15 PPMVD-NOX @ 3% O2 (0.0182 LB-NOX/MMBTU)

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Permits to Operate (PTOs) S-1128-22, -40, -41, -42, -43, -91, -155, -156, -158, -210, -342, -343, -344, -345, -346, -347, -348, -349, -350, -351, -353, -355, S-1129-57, -80, -82, -380, -381, and -859, S-1141-9, -11, -13, -18, -20, -25, -73, -391, -392, -394, -396, -403, -404, and -499 shall be cancelled not later than the date of initial operation of this modified emissions unit. [District Rule 2201] Federally Enforceable Through Title V Permit

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**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1141-60-25 : Apr 29 2010 4:26PM - RINALDIR : Joint Inspection NOT Required

4. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
5. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2010] Federally Enforceable Through Title V Permit
6. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
7. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
8. This Authority to Construct shall be implemented according to the date proposed in the District approved Rule 4306 Emission Control Plan. [District Rule 4306, 6.4] Federally Enforceable Through Title V Permit
9. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
10. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
11. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
12. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [County Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus)] Federally Enforceable Through Title V Permit
13. Steam generator shall be equipped with the following operational instrumentation: fuel gas volume flowmeter, TEOR gas volume flowmeter, and TVC gas flowmeter. [District NSR Rule and 4305] Federally Enforceable Through Title V Permit
14. The scrubber shall be equipped with a differential pressure gauge to indicate the pressure drop across the unit. The gauge shall be maintained in good working condition at all times. [District NSR Rule] Federally Enforceable Through Title V Permit
15. Scrubber liquid supply (at inlet to scrubber) shall have an operational pressure indicator. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Scrubber liquid supply (at inlet to scrubber) shall have an operational flow meter. [District NSR Rule] Federally Enforceable Through Title V Permit
17. Scrubber sprays and/or nozzles shall be maintained as required to achieve compliance with emission limits. [District NSR Rule] Federally Enforceable Through Title V Permit
18. Dissolved and suspended solids and condensed organics shall not exceed 20% of the scrubbing stream. [District NSR Rule] Federally Enforceable Through Title V Permit
19. Scrubber stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA test methods. [District Rule 1081] Federally Enforceable Through Title V Permit
20. Scrubber shall be equipped with recirculation liquor pH indicator and pump discharge pressure indicator. [District NSR Rule] Federally Enforceable Through Title V Permit
21. Steam generator firebox convection section, scrubber bypass valve, and all flue gas ductwork shall have no detectible leaks. [District NSR Rule] Federally Enforceable Through Title V Permit
22. Scrubber recirculation liquor pH shall be maintained between 6.2 and 7.5. [District NSR Rule] Federally Enforceable Through Title V Permit
23. Scrubber recirculation liquor pH shall be maintained only with soda ash unless District approval is granted for substitution. [District NSR Rule] Federally Enforceable Through Title V Permit

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24. Compliance with fuel sulfur limit(s) can be demonstrated either by monitoring sulfur content at location(s) after all fuel sources are combined prior to incineration, or by monitoring the sulfur content and volume of each fuel source and performing mass balance calculations. Records of monitoring locations, detected sulfur concentrations, and mass balance calculations, if necessary, shall be maintained and kept onsite and made readily available for District inspection upon request. [District Rule 1070]
25. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
26. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
27. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
28. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
29. Total sulfur content of natural gas combusted shall not exceed 0.75 grain/100 scf. [District NSR Rule] Federally Enforceable Through Title V Permit
30. Emissions from the steam generator shall not exceed any of the following limits: 0.080 lb-SO<sub>x</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
31. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.0182 lb-NO<sub>x</sub>/MMBtu or 51 ppmvd CO @ 3% O<sub>2</sub> or 0.0375 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
32. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
33. During the initial "shakedown" period emissions from the steam generator shall not exceed any of the following limits: 30 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.036 lb-NO<sub>x</sub>/MMBtu, 0.080 lb-SO<sub>x</sub>/MMBtu, 0.005 lb-PM<sub>10</sub>/MMBtu, 51 ppmvd CO @ 3% O<sub>2</sub> or 0.0375 lb-CO/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
34. During a shakedown period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 30 ppmvd @ 3% O<sub>2</sub> or 0.036 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4306 compliance deadline selected for this unit. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
35. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit

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36. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
37. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 54.0 lb-NOx/day, 9,965 lb-NOx/yr, 56.3 lb-CO/day, and 20,531 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
38. Source testing to measure NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 6.3.1, and 4306, 6.3.1] Federally Enforceable Through Title V Permit
39. Source testing to measure NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1 and 4306, 6.3.1] Federally Enforceable Through Title V Permit
40. Whenever the unit is switched to scrubbed operation, compliance source testing for SOx shall be conducted within 60 days of initial scrubbing date unless source testing has occurred within the previous 12 months. [District Rule 1081] Federally Enforceable Through Title V Permit
41. If the unit is operated with the scrubber, compliance source testing for SOx shall be conducted not less than once every 12 months. [District Rule 1081] Federally Enforceable Through Title V Permit
42. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
43. If the steam generator is fired on PUC-regulated natural gas, then the permittee shall maintain on file copies of all natural gas bills or fuel throughput records for a period of five years. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
44. If the steam generator is not fired on PUC-regulated natural gas, then the sulfur content of the fuel gas being fired in the steam generator shall be determined using ASTM D 1072, D 3031, D 4084, D 3246, double GC for H2S and mercaptans, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
45. If the steam generator is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
46. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
47. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit

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48. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
49. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
50. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
51. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
52. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
53. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
54. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 5.5.2 and 4306, 5.5.2] Federally Enforceable Through Title V Permit
55. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
56. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
57. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NOx and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
58. The following conditions must be met for representative unit(s) to be used to test for NOx and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306] Federally Enforceable Through Title V Permit
59. All units in a group for which representative units are source tested for NOx and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

60. All units in a group for which representative units are source tested for NOx and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
61. The number of representative units source tested for NOx and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
62. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1] Federally Enforceable Through Title V Permit
63. Copies of all gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any non-certified fuel. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
64. Permittee shall maintain with the permit a current listing of all TEOR and TVC gas systems providing vapors to this steam generator and shall make such listing readily available for District inspection upon request [District NSR Rule] Federally Enforceable Through Title V Permit
65. Permittee shall maintain daily records of volume of fuel gas burned, TEOR and TVC gas incinerated, and permit number(s) of systems providing gas for incineration. [District NSR Rule] Federally Enforceable Through Title V Permit
66. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit
67. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
68. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
69. This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 435I (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
70. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this Authority to Construct shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
71. The EPA Regional Administrator shall be notified by telephone, facsimile, or electronic mail transmission within two (2) working days following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in the condition below. In addition, the Regional Administrator shall be notified in writing within fifteen (15) days of any such failure. The notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the condition below, and the methods utilized to mitigate emissions and restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 78-17] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

72. The EPA Regional Administrator, the head of the State Air Pollution Control Agency, the head of the responsible local Air Pollution Control Agency, and/or their authorized representative, upon the presentation of credentials, shall be permitted: A. to enter the premises where the source is located or where any records are required to be kept under the terms and conditions of this Authority to Construct; and B. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Authority to Construct; and C. to inspect any equipment, operation, or method required in this Authority to Construct; and D. to sample emissions from the source(s). [PSD SJ 78-17] Federally Enforceable Through Title V Permit
73. In the event of any changes in control or ownership of the facilities to be constructed, the Authority to Construct shall be binding on all subsequent owners and operators. The applicant shall notify the succeeding owner and operator of the existence of this Authority to Construct and its conditions by letter, a copy of which shall be forwarded to the EPA Regional Administrator and the State and local Air Pollution Control Agency. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
74. The provisions of this Authority to Construct are severable, and, if any provision of the Authority to Construct is held invalid, the remainder of this Authority to Construct shall not be affected thereby. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
75. The owner and operator of the proposed facility shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60, and 61 and all other applicable federal, state, and local air quality regulations. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
76. Permittee shall consume no more than 6,290 barrels per day of oil on a daily maximum average and no more than 5,700 barrels per day of oil on an annual average basis. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
77. The sulfur content of the fuel shall be no greater than 1.5% by weight on a daily maximum average and no greater than 1.5% by weight on an annual average basis, as determined by ASTM Methods D115-68, D129-64, or D151-64, or equivalent methods approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
78. The amount of fuel burned and the sulfur content of the fuel shall be recorded in a permanent record and shall be available for periodic inspection by the District, the California Air Resource Board, and the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
79. Permittee shall have installed an operable scrubber on the equipment. Exhaust gases from the generator shall be ducted through an operable scrubber. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
80. Permittee shall not discharge into the atmosphere SO<sub>2</sub> in excess of 0.063 lbs/MMBtu. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
81. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance tests for SO<sub>2</sub>, and furnish the District and the EPA a written report of the results of such tests. The tests for SO<sub>2</sub> shall be conducted on an annual basis. The performance tests shall be conducted for each scrubber required for the generator. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
82. Permittee shall not discharge into the atmosphere NO<sub>x</sub> in excess of 0.277 lb/MMBtu (maximum 2-hour average). [PSD SJ 78-17] Federally Enforceable Through Title V Permit
83. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance test for NO<sub>x</sub>, and furnish the District and the EPA written report of the results of such tests. The tests for NO<sub>x</sub> shall be conducted on an annual basis and at the maximum operating capacity of the facilities being tested. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
84. Permittee shall install and operate ammonia injection equipment to control nitrogen oxide emissions on the steam generator. This condition may be amended if other control technologies are determined by EPA to satisfy BACT requirements, in accordance with the periodic BACT review procedure below. [PSD SJ 78-17] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

85. Permittee shall submit updated Best Available Control Technology (BACT) proposals every six months. Based on the information submitted and on other information which is available at that time, EPA may impose more stringent emission limits for NO<sub>x</sub>. In no event shall EPA set a higher emission limit for NO<sub>x</sub>. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
86. Performance tests for the emission of NO<sub>x</sub> and SO<sub>2</sub> shall be conducted and results reported in accordance with the methods set forth in Parts 60.8 and 60.46 of the Standards of Performance for New Sources. The EPA shall be notified at least 30 days in advance of such test to allow an observer to be present. In lieu of the above mentioned test methods, equivalent methods may be used if approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit

# San Joaquin Valley Air Pollution Control District

**PERMIT UNIT:** S-1141-67-23

**EXPIRATION DATE:** 02/28/2006

**SECTION:** NE21 **TOWNSHIP:** 32S **RANGE:** 23E

## **EQUIPMENT DESCRIPTION:**

62.5 MMBTU/HR C.E. NATCO NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER WITH FGR AND AN O2 CONTROLLER (#121, SN T-6718101-04, NB 108, DIS 20639-79)

## **PERMIT UNIT REQUIREMENTS**

1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
2. Steam generator shall be equipped with the following operational instrumentation: fuel gas volume flowmeter. [District NSR Rule] Federally Enforceable Through Title V Permit
3. Compliance with fuel sulfur limit(s) can be demonstrated either by monitoring sulfur content at locations(s) after all fuel sources are combined prior to incineration, or by monitoring the sulfur content and volume of each fuel source and performing mass balance calculations. Records of monitoring locations, detected sulfur concentrations, and mass balance calculations, if necessary, shall be maintained and kept onsite and made readily available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
4. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
5. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
6. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
7. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

8. Total sulfur content of natural gas combusted shall not exceed 1.0 grain/100 scf. [District NSR Rule] Federally Enforceable Through Title V Permit
9. Emissions from the steam generator shall not exceed any of the following limits: 0.126 lb-SO<sub>x</sub>/MMBtu, 0.014 lb-PM<sub>10</sub>/MMBtu, or 0.003 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.0182 lb-NO<sub>x</sub>/MMBtu or 51 ppmvd CO @ 3% O<sub>2</sub> or 0.0375 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
11. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 5.5.6 and 4306, 5.3 and 6.1.4] Federally Enforceable Through Title V Permit
13. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
14. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 54.0 lb-NO<sub>x</sub>/day, 9,965 lb-NO<sub>x</sub>/year, 56.3 lb-CO/day, and 20,531 lb-CO/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1 and 4306, 6.3.1] Federally Enforceable Through Title V Permit
16. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
17. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
18. NO<sub>x</sub> emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
19. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
20. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
21. All required source testing shall conform to the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
22. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
23. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

24. If the steam generator is fired on PUC-regulated natural gas, then the permittee shall maintain on file copies of all natural gas bills or fuel throughput records for a period of five years. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
25. If the steam generator is not fired on PUC-regulated natural gas, then the sulfur content of the fuel gas being fired in the steam generator shall be determined using ASTM D 1072, D 3031, D 4084, D 3246, double GC for H<sub>2</sub>S and mercaptans, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
26. If the steam generator is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
27. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4.2] Federally Enforceable Through Title V Permit
28. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4.2] Federally Enforceable Through Title V Permit
29. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4 and 4306, 5.4.2 and 5.5.4] Federally Enforceable Through Title V Permit
30. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 5.5.2 and 4306, 5.5.2] Federally Enforceable Through Title V Permit
31. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit

32. The following conditions must be met for representative unit(s) to be used to test for NOx and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
33. All units in a group for which representative units are source tested for NOx and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
34. All units in a group for which representative units are source tested to for NOx and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
35. The number of representative units source tested for NOx and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
36. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1] Federally Enforceable Through Title V Permit
37. Copies of all gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any non-certified fuel. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR gas incinerated in this unit. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit
39. Permittee shall measure and record the fuel gas sulfur content and BTU content at the time of NOx testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit
40. Permittee shall maintain with the permit a current listing of all thermally enhanced well vent control systems providing TEOR vapors to this steam generator and shall make such listing readily available for District inspection upon request [District NSR Rule] Federally Enforceable Through Title V Permit
41. Permittee shall maintain daily records of volume of fuel gas burned, TEOR gas incinerated, and permit number(s) of TEOR systems providing gas for incineration. [District NSR Rule] Federally Enforceable Through Title V Permit
42. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit
43. {533} Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.



44. {1669} This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
45. {1678} This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351(Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
46. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this Authority to Construct shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
47. The EPA Regional Administrator shall be notified by telephone, facsimile, or electronic mail transmission within two (2) working days following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in the condition below. In addition, the Regional Administrator shall be notified in writing within fifteen (15) days of any such failure. The notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the condition below, and the methods utilized to mitigate emissions and restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
48. The EPA Regional Administrator, the head of the State Air Pollution Control Agency, the head of the responsible local Air Pollution Control Agency, and/or their authorized representative, upon the presentation of credentials, shall be permitted: A. to enter the premises where the source is located or where any records are required to be kept under the terms and conditions of this Authority to Construct; and B. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Authority to Construct; and C. to inspect any equipment, operation, or method required in this Authority to Construct; and D. to sample emissions from the source(s). [PSD SJ 78-17] Federally Enforceable Through Title V Permit
49. In the event of any changes in control or ownership of the facilities to be constructed, the Authority to Construct shall be binding on all subsequent owners and operators. The applicant shall notify the succeeding owner and operator of the existence of this Authority to Construct and its conditions by letter, a copy of which shall be forwarded to the EPA Regional Administrator and the State and local Air Pollution Control Agency. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
50. The provisions of this Authority to Construct are severable, and, if any provision of the Authority to Construct is held invalid, the remainder of this Authority to Construct shall not be affected thereby. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
51. The owner and operator of the proposed facility shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60, and 61 and all other applicable federal, state, and local air quality regulations. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
52. Permittee shall consume no more than 6,290 barrels per day of oil on a daily maximum average and no more than 5,700 barrels per day of oil on an annual average basis. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
53. The sulfur content of the fuel shall be no greater than 1.5% by weight on a daily maximum average and no greater than 1.5% by weight on an annual average basis, as determined by ASTM Methods D115-68, D129-64, or D151-64, or equivalent methods approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
54. The amount of fuel burned and the sulfur content of the fuel shall be recorded in a permanent record and shall be available for periodic inspection by the District, the California Air Resource Board, and the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
55. Permittee shall have installed an operable scrubber on the equipment. Exhaust gases from the generator shall be ducted through an operable scrubber. [PSD SJ 78-17] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

56. Permittee shall not discharge into the atmosphere SO<sub>2</sub> in excess of 0.063 lbs/MMBtu. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
57. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance tests for SO<sub>2</sub>, and furnish the District and the EPA a written report of the results of such tests. The tests for SO<sub>2</sub> shall be conducted on an annual basis. The performance tests shall be conducted for each scrubber required for the generator. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
58. Permittee shall not discharge into the atmosphere NO<sub>x</sub> in excess of 0.277 lb/MMBtu (maximum 2-hour average). [PSD SJ 78-17] Federally Enforceable Through Title V Permit
59. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance test for NO<sub>x</sub>, and furnish the District and the EPA written report of the results of such tests. The tests for NO<sub>x</sub> shall be conducted on an annual basis and at the maximum operating capacity of the facilities being tested. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
60. Permittee shall install and operate ammonia injection equipment to control nitrogen oxide emissions on the steam generator. This condition may be amended if other control technologies are determined by EPA to satisfy BACT requirements, in accordance with the periodic BACT review procedure below. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
61. Permittee shall submit updated Best Available Control Technology (BACT) proposals every six months. Based on the information submitted and on other information which is available at that time, EPA may impose more stringent emission limits for NO<sub>x</sub>. In no event shall EPA set a higher emission limit for NO<sub>x</sub>. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
62. Performance tests for the emission of NO<sub>x</sub> and SO<sub>2</sub> shall be conducted and results reported in accordance with the methods set forth in Parts 60.8 and 60.46 of the Standards of Performance for New Sources. The EPA shall be notified at least 30 days in advance of such test to allow an observer to be present. In lieu of the above mentioned test methods, equivalent methods may be used if approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1141-368-12

**ISSUANCE DATE:** 02/22/2007

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** NE26 **TOWNSHIP:** 31S **RANGE:** 22E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED SMITH MOON STEEL STEAM GENERATOR WITH NORTH AMERICAN NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), AND O2 CONTROLLER: REMOVE PM10 SOURCE TESTING REQUIREMENT AND REVISE VOC EMISSIONS FACTOR

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102] Federally Enforceable Through Title V Permit
4. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1141-368-12 : Dec 31 2009 2:55PM - RINALDIR : Joint Inspection NOT Required

6. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [County Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus)] Federally Enforceable Through Title V Permit
7. Compliance with fuel sulfur limit(s) can be demonstrated either by monitoring sulfur content at location(s) after all fuel sources are combined prior to incineration, or by monitoring the sulfur content and volume of each fuel source and performing mass balance calculations. Records of monitoring locations, detected sulfur concentrations, and mass balance calculations, if necessary, shall be maintained and kept onsite and made readily available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
8. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
9. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
10. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
11. Total sulfur content of natural gas combusted shall not exceed 1.0 grain/100 scf. [District NSR Rule] Federally Enforceable Through Title V Permit
12. Copies of all fuel invoices, gas purchase contract, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit
13. Emissions from the steam generator shall not exceed any of the following limits: 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.006 lb-PM<sub>10</sub>/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu or 51 ppmvd CO @ 3% O<sub>2</sub> or 0.0375 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
15. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
17. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
18. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 54.0 lb-NO<sub>x</sub>/day, 9,965 lb-NO<sub>x</sub>/yr, 56.3 lb-CO/day, and 20,531 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

19. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1 and 4306, 6.3.1] Federally Enforceable Through Title V Permit
20. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
21. If the steam generator is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the steam generator shall be determined using ASTM D 1072, D 3031, D 4084, D 3246, double GC for H<sub>2</sub>S and mercaptans, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
22. If the steam generator is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
23. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
24. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
25. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
26. NO<sub>x</sub> emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
27. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
28. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
29. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
30. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

31. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 5.5.2 and 4306, 5.5.2] Federally Enforceable Through Title V Permit
32. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
33. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
34. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
35. The following conditions must be met for representative unit(s) to be used to test for NO<sub>x</sub> and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
36. All units in a group for which representative units are source tested for NO<sub>x</sub> and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
37. All units in a group for which representative units are source tested to for NO<sub>x</sub> and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
38. The number of representative units source tested for NO<sub>x</sub> and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
39. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1] Federally Enforceable Through Title V Permit
40. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit
41. ATC shall be implemented concurrently with or subsequent to ATC S-1141-368-9. [District Rule 2201] Federally Enforceable Through Title V Permit



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1141-369-14

**ISSUANCE DATE:** 02/22/2007

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** NE22 **TOWNSHIP:** 31S **RANGE:** 22E

### EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED SMITH MOON STEEL STEAM GENERATOR #131 (NB 890) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), AND O2 CONTROLLER: REMOVE PM10 SOURCE TESTING REQUIREMENT AND REVISE VOC EMISSIONS FACTOR

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102] Federally Enforceable Through Title V Permit
4. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081, and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
5. Copies of all fuel invoices, gas purchase contract, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1141-369-14 : Dec 31 2009 2:55PM -- RINALDIR : Joint Inspection NOT Required

6. Operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
7. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
8. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
9. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.4.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
10. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
11. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
12. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
13. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
14. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
15. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of 40 CFR 60, Subpart Dc (except 60.44c(g) and (h) and 60.48c). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
16. The requirements of 40 CFR 72.6(b) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
17. Steam generator shall be equipped with the following operational instrumentation: fuel gas volume flowmeter and flue gas oxygen monitor. [District NSR Rule, 4305] Federally Enforceable Through Title V Permit
18. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District NSR Rule and 1081] Federally Enforceable Through Title V Permit
19. During a "shakedown" period not to exceed 60 calendar days from initial operation of the modifications authorized by ATC S-1141-369-12 NO<sub>x</sub> emission rate shall not exceed 30 ppmvd @ 3% O<sub>2</sub> or 0.036 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4306 compliance deadline selected for this unit. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE



20. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rule 4306] Federally Enforceable Through Title V Permit
21. Permittee shall maintain records of duration of each start-up and shutdown, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit
22. Emission rates shall not exceed: PM10: 9.0 lb/day or 3285 lb/year, SOx: 4.3 lb/day or 1570 lb/year, NOx (as NO2): 54.0 lb/day or 9855 lb/year, VOC: 8.3 lb/day or 3011 lb/year, CO: 27.8 lb/day or 10,147 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
23. Emission rates, except during startup and shutdown, shall not exceed any of the following: PM-10: 0.006 lb/MMBtu, SOx (as SO2): 0.00285 lb/MMBtu, NOx (as NO2): 0.018 lb/MMBtu or 15 ppmv @ 3% O2, VOC: 0.0055 lb/MMBtu, or CO: 25 ppmv @ 3% O2. [District Rule 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
24. Permittee shall measure and record the fuel gas sulfur content and Btu content at the time of NOx testing, except for natural gas purchased from a PUC regulated utility. Permittee shall maintain records of the fuel gas sulfur content and make such records readily available for District inspection upon request. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit
25. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
26. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
27. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
28. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
29. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
30. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
31. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, PM10 - EPA Method 5, and gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305 and 4306] Federally Enforceable Through Title V Permit
32. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
34. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
35. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
36. Annual tests results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NO<sub>x</sub> limits of this permit, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. [District Rule 2520, 9.4.2, 4305 and 4306] Federally Enforceable Through Title V Permit
37. The following conditions must be met for representative unit(s) to be used to demonstrate compliance for NO<sub>x</sub> limits for a group of units: all units are initially source tested and emissions from each unit in the group are less than 90% of the permitted value and vary 25% or less from the average of all runs; all units in a group are similar in terms of rated heat input, design, operation conditions and control method; all units in a group have received the same maintenance and tune-up procedures. Records shall be maintained for each unit of all maintenance & tune-up work done. [District Rule 2520, 9.4.2, 4305 and 4306] Federally Enforceable Through Title V Permit
38. All units in a group for which representative units are source for NO<sub>x</sub> emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.4.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
39. All units in a group for which representative units are source tested for NO<sub>x</sub> emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.4.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
40. The number of representative units source tested for NO<sub>x</sub> emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
41. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
42. All records shall be maintained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

43. ATC shall be implemented concurrently with or subsequent to '-369-12. [District Rule 2201]

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## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1141-370-14

**ISSUANCE DATE:** 02/22/2007

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** NE22 **TOWNSHIP:** 31S **RANGE:** 22E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED SMITH MOON STEEL STEAM GENERATOR #132 (NB 888) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), AND O2 CONTROLLER: REMOVE PM10 SOURCE TESTING REQUIREMENT AND REVISE VOC EMISSIONS FACTOR

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102] Federally Enforceable Through Title V Permit
4. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081, and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
5. Copies of all fuel invoices, gas purchase contract, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

6. Operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
7. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
8. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
9. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.4.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
10. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
11. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
12. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
13. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
14. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
15. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of 40 CFR 60, Subpart Dc (except 60.44c(g) and (h) and 60.48c). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
16. The requirements of 40 CFR 72.6(b) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
17. Steam generator shall be equipped with the following operational instrumentation: fuel gas volume flowmeter and flue gas oxygen monitor. [District NSR Rule and 4305] Federally Enforceable Through Title V Permit
18. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District NSR Rule and 1081] Federally Enforceable Through Title V Permit
19. During a "shakedown" period not to exceed 60 calendar days from initial operation of the modifications authorized by ATC S-1141-370-12 NO<sub>x</sub> emission rate shall not exceed 30 ppmvd @ 3% O<sub>2</sub> or 0.036 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4306 compliance deadline selected for this unit. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

20. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rule 4306] Federally Enforceable Through Title V Permit
21. Permittee shall maintain records of duration of each start-up and shutdown, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit
22. Emission rates shall not exceed: PM<sub>10</sub>: 9.0 lb/day or 3285 lb/year, SO<sub>x</sub>: 4.3 lb/day or 1570 lb/year, NO<sub>x</sub> (as NO<sub>2</sub>): 54.0 lb/day or 9855 lb/year, VOC: 8.3 lb/day or 3011 lb/year, CO: 27.8 lb/day or 10,147 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
23. Emission rates, except during startup and shutdown, shall not exceed any of the following: PM-10: 0.006 lb/MMBtu, SO<sub>x</sub> (as SO<sub>2</sub>): 0.00285 lb/MMBtu, NO<sub>x</sub> (as NO<sub>2</sub>): 0.018 lb/MMBtu or 15 ppmv @ 3% O<sub>2</sub>, VOC: 0.0055 lb/MMBtu, or CO: 25 ppmv @ 3% O<sub>2</sub>. [District Rule 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
24. Permittee shall measure and record the fuel gas sulfur content and Btu content at the time of NO<sub>x</sub> testing, except for natural gas purchased from a PUC regulated utility. Permittee shall maintain records of the fuel gas sulfur content and make such records readily available for District inspection upon request. [District NSR Rule, 4406] Federally Enforceable Through Title V Permit
25. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
26. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
27. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
28. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
29. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
30. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
31. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, PM<sub>10</sub> - EPA Method 5, and gas sulfur content - ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans. [District Rules 1081, 4305] Federally Enforceable Through Title V Permit
32. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
34. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
35. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
36. Annual tests results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NO<sub>x</sub> limits of this permit, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. [District Rule 2520, 9.4.2, 4305 and 4306] Federally Enforceable Through Title V Permit
37. The following conditions must be met for representative unit(s) to be used to demonstrate compliance for NO<sub>x</sub> limits for a group of units: all units are initially source tested and emissions from each unit in the group are less than 90% of the permitted value and vary 25% or less from the average of all runs; all units in a group are similar in terms of rated heat input, design, operation conditions and control method; all units in a group have received the same maintenance and tune-up procedures. Records shall be maintained for each unit of all maintenance & tune-up work done. [District Rule 2520, 9.4.2, 4305 and 4306] Federally Enforceable Through Title V Permit
38. All units in a group for which representative units are source for NO<sub>x</sub> emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.4.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
39. All units in a group for which representative units are source tested for NO<sub>x</sub> emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.4.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
40. The number of representative units source tested for NO<sub>x</sub> emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
41. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
42. All records shall be maintained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

43. ATC shall be implemented concurrently with or subsequent to ATC S-1141-370-12. [District Rule 2201] Federally Enforceable Through Title V Permit





## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1141-371-16

**ISSUANCE DATE:** 02/22/2007

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** NE22 **TOWNSHIP:** 31S **RANGE:** 22E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED SMITH MOON STEEL STEAM GENERATOR #133 (DIS# 19962-71) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), AND O2 CONTROLLER: REMOVE PM10 SOURCE TESTING REQUIREMENT AND REVISE VOC EMISSIONS FACTOR

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
4. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and Kern County Rule 108.1] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1141-371-16, Dec 31 2009 2:56PM - RINALDIR : Joint Inspection NOT Required

5. Copies of all fuel invoices, gas purchase contract, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit
6. Operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
7. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
8. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
9. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.4.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
10. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
11. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
12. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
13. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
14. During a "shakedown" period not to exceed 60 calendar days from initial operation of the modifications authorized by ATC S-1141-371-13 NO<sub>x</sub> emission rate shall not exceed 30 ppmvd @ 3% O<sub>2</sub> or 0.036 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4306 compliance deadline selected for this unit. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit
15. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rule 4306] Federally Enforceable Through Title V Permit
16. Permittee shall maintain records of duration of each start-up and shutdown, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit
17. Emission rates shall not exceed: PM<sub>10</sub>: 9.0 lb/day or 3285 lb/year, SO<sub>x</sub>: 4.3 lb/day or 1570 lb/year, NO<sub>x</sub> (as NO<sub>2</sub>): 54.0 lb/day or 9855 lb/year, VOC: 8.3 lb/day or 3011 lb/year, CO: 27.8 lb/day or 10,147 lb/year.. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

18. Emission rates, except during startup and shutdown, shall not exceed any of the following: PM-10: 0.006 lb/MMBtu, SOx (as SO<sub>2</sub>) 0.00285 lb/MMBtu, NOx (as NO<sub>2</sub>): 0.018 lb/MMBtu or 15 ppmv @ 3% O<sub>2</sub>, VOC: 0.0055 lb/MMBtu, or CO: 25 ppmv @ 3% O<sub>2</sub>. [District Rule 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
19. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
20. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
21. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
22. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
23. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
24. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
25. Compliance source testing shall be conducted under conditions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
26. Compliance with SOx emission limits shall be demonstrated by fuel gas sulfur contents analysis at the time of NOx testing, except for natural gas purchased from a PUC regulated utility. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and fuel gas sulfur content - ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans. [District Rules 1081 and 4305] Federally Enforceable Through Title V Permit
28. The permittee shall monitor and record the stack concentration of NOx, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
29. If either the NOx or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

30. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
31. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
32. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.4.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
33. The following conditions must be met for representative unit(s) to be used to test for NO<sub>x</sub> limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.4.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
34. All units in a group for which representative units are source for NO<sub>x</sub> emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.4.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
35. All units in a group for which representative units are source tested for NO<sub>x</sub> emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.4.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
36. The number of representative units source tested for NO<sub>x</sub> emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
37. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
38. All records shall be maintained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, and 4306] Federally Enforceable Through Title V Permit
39. ATC shall be implemented concurrently with or subsequent to ATC S-1141-371-13 or S-1141-371-17. [District Rule 2201] Federally Enforceable Through Title V Permit



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1141-372-21

**ISSUANCE DATE:** 02/22/2007

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** NE21 **TOWNSHIP:** 32S **RANGE:** 23E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS FIRED C. E. NATCO STEAM GENERATOR #79 (SN T-7585901-07, NB 1220, DIS 20633-81) WITH A NORTH AMERICAN MODEL 4231-625-GLE LOW NOX BURNER, FLUE GAS RECIRCULATION, AND O2 CONTROLLER: REMOVE PM10 SOURCE TESTING REQUIREMENTS, REVISE VOC EMISSIONS FACTOR, DELETE REFERENCE TO TEOR GAS COMBUSTION IN EQUIPMENT DESCRIPTION

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This generator is permitted to operate at the following locations: Sections SW23 and NW27 of Township 31S, Range 22E and Section NE21, Township 32S, Range 23E. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO2. [District Rules 4301, 5.2.2 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO2, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1141-372-21 : Dec 31 2009 3:25PM - RINALDIR : Joint Inspection NOT Required

6. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
7. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
8. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6 or 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by double GC for H<sub>2</sub>S and mercaptans performed in the laboratory and EPA Method 19 to calculate emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
9. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
10. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
11. Emission rates shall not exceed any of the following: PM<sub>10</sub> - 0.006 lb/MMBTU; SO<sub>x</sub> (as SO<sub>2</sub>) - 0.00285 lb/MMBTU; VOC - 0.0055 lb/MMBTU. [District NSR Rule] Federally Enforceable Through Title V Permit
12. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu or 50 ppmvd CO @ 3% O<sub>2</sub> or 0.037 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
13. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
15. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
16. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 54.0 lb-NO<sub>x</sub>/day, 9,965 lb-NO<sub>x</sub>/yr, 55.5 lb-CO/day, and 20,258 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
17. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and Kern County Rule 108.1] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

18. Source testing to measure NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1 and 4306, 6.3.1] Federally Enforceable Through Title V Permit
19. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NOx and CO source testing requirement. [District Rules 2520, 9.3.2 and 4305] Federally Enforceable Through Title V Permit
20. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
22. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
23. Compliance source testing shall be conducted under conditions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
24. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas; or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rules 2520, 9.3.2 and 4801 and Kern County Rule 407] Federally Enforceable Through Title V Permit
25. The permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made in writing no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
26. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District NSR Rule and 1081] Federally Enforceable Through Title V Permit
27. Steam generator shall be equipped with the following operational instrumentation: fuel gas volume flowmeter, TEOR gas volume flowmeter, and flue gas oxygen monitor. [District NSR Rule and District Rule 4305] Federally Enforceable Through Title V Permit
28. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, PM10 - EPA Method 5, and fuel gas sulfur content - ASTM D1072, D3031, D3246, D4084, or double GC for H2S and mercaptans. [District Rules 1081 and 4305] Federally Enforceable Through Title V Permit
29. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

30. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
31. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
32. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
33. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (Amended December 16, 1993), of 3 thirty-minute test runs for NO<sub>x</sub> and CO. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
34. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
35. The following conditions must be met for representative unit(s) to be used to test for NO<sub>x</sub> limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
36. All units in a group for which representative units are source for NO<sub>x</sub> emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
37. All units in a group for which representative units are source tested for NO<sub>x</sub> emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
38. The number of representative units source tested for NO<sub>x</sub> emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE



39. Copies of all fuel invoices, gas purchase contract, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit
40. Operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1141-373-19

**ISSUANCE DATE:** 02/22/2007

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** NE21 **TOWNSHIP:** 32S **RANGE:** 23E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED SMITH MOON STEEL STEAM GENERATOR #21S-4 (DIS# 19452-71, NB 551) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), AND O2 CONTROLLER: REMOVE PM10 SOURCE TESTING REQUIREMENT AND REVISE VOC EMISSIONS FACTOR

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit .
3. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and Kern County Rule 108.1] Federally Enforceable Through Title V Permit
4. Copies of all fuel invoices, gas purchase contract, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1141-373-19 : Dec 31 2009 3:35PM - RINALDIR : Joint Inspection NOT Required

5. Operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
6. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
9. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
11. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
12. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
13. During a "shakedown" period not to exceed 60 calendar days from initial operation of the modifications authorized by ATC S-1141-373-18 NO<sub>x</sub> emission rate shall not exceed 30 ppmvd @ 3% O<sub>2</sub> or 0.036 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4306 compliance deadline selected for this unit. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit
14. Except for periods of startup and shutdown, emission rates shall not exceed any of the following: PM<sub>10</sub> - 0.006 lb/MMBTU; SO<sub>x</sub> (as SO<sub>2</sub>) - 0.00285 lb/MMBTU; NO<sub>x</sub> (as NO<sub>2</sub>) - 0.018 lb/MMBTU or 15 ppmv @ 3% O<sub>2</sub>; VOC - 0.0055 lb/MMBTU; or CO - 0.0185 lb/MMBTU or 25 ppmv @ 3% O<sub>2</sub>. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
15. Daily emissions shall not exceed any of the following: 54.0 lb NO<sub>x</sub>/day, 9,855 lb NO<sub>x</sub>/year, 4.3 lb/SO<sub>x</sub>/day, 9.0 lb PM<sub>10</sub>/day, 27.8 lb CO/day, 8.3 lb VOC/day. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rule 4306] Federally Enforceable Through Title V Permit
17. Permittee shall maintain records of duration of each start-up and shutdown, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

18. The permittee shall monitor and record the stack concentration of NOX, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
19. If either the NOX or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
20. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
21. The permittee shall maintain records of: (1) the date and time of NOX, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOX and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
22. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
23. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
24. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
25. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
26. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
27. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
28. Compliance with SOx emission limits shall be demonstrated by fuel gas sulfur contents analysis at the time of NOx testing, except for natural gas purchased from a PUC regulated utility. [District Rule 1081] Federally Enforceable Through Title V Permit
29. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

30. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
31. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (Amended December 16, 1993), of 3 thirty-minute test runs for NOx and CO. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
32. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NOx emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
33. The following conditions must be met for representative unit(s) to be used to test for NOx limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
34. All units in a group for which representative units are source for NOx emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
35. All units in a group for which representative units are source tested for NOx emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
36. The number of representative units source tested for NOx emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
37. ATC shall be implemented concurrently with or subsequent to ATC S-1141-373-18. [District Rule 2201] Federally Enforceable Through Title V Permit



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1141-374-10

**ISSUANCE DATE:** 02/22/2007

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** NE26 **TOWNSHIP:** 31S **RANGE:** 22E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS-FIRED SMITH MOON STEEL STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER WITH FGR AND AN OXYGEN CONTROLLER (#4, SN 74-37127-1, NB 668): REMOVE PM10 SOURCE TESTING REQUIREMENT AND REVISE VOC EMISSIONS FACTOR

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102] Federally Enforceable Through Title V Permit
4. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1141-374-10 : Dec 31 2009 3:36PM -- RINALDIR : Joint Inspection NOT Required

6. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [County Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus)] Federally Enforceable Through Title V Permit
7. Compliance with fuel sulfur limit(s) can be demonstrated either by monitoring sulfur content at location(s) after all fuel sources are combined prior to incineration, or by monitoring the sulfur content and volume of each fuel source and performing mass balance calculations. Records of monitoring locations, detected sulfur concentrations, and mass balance calculations, if necessary, shall be maintained and kept onsite and made readily available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
8. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
9. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
10. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
11. Total sulfur content of natural gas combusted shall not exceed 1.0 grain/100 scf. [District NSR Rule] Federally Enforceable Through Title V Permit
12. Copies of all fuel invoices, gas purchase contract, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit
13. Emissions from the steam generator shall not exceed any of the following limits: 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.006 lb-PM<sub>10</sub>/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu or 51 ppmvd CO @ 3% O<sub>2</sub> or 0.0375 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
15. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
17. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
18. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 54.0 lb-NO<sub>x</sub>/day, 9,965 lb-NO<sub>x</sub>/yr, 56.3 lb-CO/day, and 20,531 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

19. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1 and 4306, 6.3.1] Federally Enforceable Through Title V Permit
20. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
21. If the steam generator is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the steam generator shall be determined using ASTM D 1072, D 3031, D 4084, D 3246, double GC for H<sub>2</sub>S and mercaptans, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
22. If the steam generator is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
23. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
24. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
25. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
26. NO<sub>x</sub> emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
27. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
28. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
29. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
30. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE



31. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 5.5.2 and 4306, 5.5.2] Federally Enforceable Through Title V Permit
32. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
33. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
34. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
35. The following conditions must be met for representative unit(s) to be used to test for NO<sub>x</sub> and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
36. All units in a group for which representative units are source tested for NO<sub>x</sub> and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
37. All units in a group for which representative units are source tested to for NO<sub>x</sub> and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
38. The number of representative units source tested for NO<sub>x</sub> and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
39. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1] Federally Enforceable Through Title V Permit
40. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit



## **AUTHORITY TO CONSTRUCT**

**PERMIT NO:** S-1141-376-12

**ISSUANCE DATE:** 02/22/2007

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** NW21 **TOWNSHIP:** 31S **RANGE:** 22E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED SMITH MOON STEEL STEAM GENERATOR #21NW-2 (DIS #30405-79) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), AND O2 CONTROLLER: REMOVE PM10 SOURCE TESTING REQUIREMENT AND REVISE VOC EMISSIONS FACTOR

## **CONDITIONS**

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and Kern County Rule 108.1] Federally Enforceable Through Title V Permit
4. Copies of all fuel invoices, gas purchase contract, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment..

Sayed Sadredin, Executive Director / APCO

5. Operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
6. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.4.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
9. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
10. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
11. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
12. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
13. Except for periods of startup and shutdown, emission rates shall not exceed any of the following: PM<sub>10</sub> - 0.006 lb/MMBTU; SO<sub>x</sub> (as SO<sub>2</sub>) - 0.00285 lb/MMBTU; NO<sub>x</sub> (as NO<sub>2</sub>) - 0.018 lb/MMBTU or 15 ppmv @ 3% O<sub>2</sub>; VOC - 0.0055 lb/MMBTU; or CO - 0.0185 lb/MMBTU or 25 ppmv @ 3% O<sub>2</sub>. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
14. Daily emissions shall not exceed any of the following: 32.7 lb NO<sub>x</sub>/day, 9,855 lb NO<sub>x</sub>/year, 4.3 lb/SO<sub>x</sub>/day, 9.0 lb PM<sub>10</sub>/day, 27.8 lb CO/day, 8.3 lb VOC/day. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rule 4306] Federally Enforceable Through Title V Permit
16. Permittee shall maintain records of duration of each start-up and shutdown, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit
17. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

18. If either the NOX or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
19. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
20. The permittee shall maintain records of: (1) the date and time of NOX, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NOX and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
21. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
22. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
23. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
24. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
25. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
26. Compliance with SO<sub>x</sub> emission limits shall be demonstrated by fuel gas sulfur contents analysis at the time of NO<sub>x</sub> testing, except for natural gas purchased from a PUC regulated utility. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and fuel gas sulfur content - ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans. [District Rules 1081, 4305 and 4306] Federally Enforceable Through Title V Permit
28. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
29. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (Amended December 16, 1993), of 3 thirty-minute test runs for NO<sub>x</sub> and CO. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

30. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
31. The following conditions must be met for representative unit(s) to be used to test for NO<sub>x</sub> limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
32. All units in a group for which representative units are source for NO<sub>x</sub> emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
33. All units in a group for which representative units are source tested for NO<sub>x</sub> emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
34. The number of representative units source tested for NO<sub>x</sub> emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
35. ATC shall be implemented concurrently with or subsequent to ATC S-1141-376-11. [District Rule 2201] Federally Enforceable Through Title V Permit



## **AUTHORITY TO CONSTRUCT**

**PERMIT NO:** S-1141-377-15

**ISSUANCE DATE:** 02/22/2007

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** NW21 **TOWNSHIP:** 31S **RANGE:** 22E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED SMITH MOON STEEL STEAM GENERATOR #4 (SN 78-37189-3, NB 828, DIS 30413-79) WITH NORTH AMERICAN MODEL GLE 4211 OR GLE 4231 MAGNA-FLAME LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), FUEL INDUCED RECIRCULATION (FIR), AND O2 CONTROLLER:  
REMOVE PM10 SOURCE TESTING REQUIREMENT AND REVISE VOC EMISSIONS FACTOR

## **CONDITIONS**

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Duration of each start-up and shutdown shall not exceed two hours. [District Rule 4305 and 4306] Federally Enforceable Through Title V Permit
4. Flue gas recirculation (FGR) shall be utilized, as needed, in conjunction with low-NOx burner to maintain ongoing compliance with permitted emission limits. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Emission rates shall not exceed: 0.006 lb-PM10/MMBtu, 0.00285 lb-SOx/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1141-377-15 - Dec 31 2009 3:37PM - RINALDIR : Joint Inspection NOT Required

6. Emission rates, except during startup and shutdown, shall not exceed any of the following: NO<sub>x</sub> (as NO<sub>2</sub>): 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu; or CO: 25 ppmvd @ 3% O<sub>2</sub> or 0.0185 lb/MMBtu. [District Rules 4305, and 4306] Federally Enforceable Through Title V Permit
7. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
8. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
9. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
10. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
11. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
12. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
13. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
14. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
15. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
16. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

17. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
18. Copies of all fuel invoices, gas purchase contract, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.3.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit
19. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
20. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
21. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
22. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
23. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6 or 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D1072, D3031, D3246, D4084 or a grab sample analysis by double GC for H<sub>2</sub>S and mercaptans performed in the laboratory and EPA Method 19 to calculate emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
24. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D1072, D3031, D4084, D3246 or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
25. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
26. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
27. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
28. Compliance source testing shall be conducted under conditions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
29. Compliance with SO<sub>x</sub> emission limits shall be demonstrated by fuel gas sulfur contents analysis at the time of NO<sub>x</sub> testing, except for natural gas purchased from a PUC regulated utility. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE



30. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and fuel gas sulfur content - ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans. [District Rules 1081, 4305, and 4306] Federally Enforceable Through Title V Permit
31. Permittee shall satisfy all applicable requirements of District Rule 4001 - New Source Performance Standards - Subpart Dc including notification and reporting Requirements. [District Rule 4001] Federally Enforceable Through Title V Permit
32. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NO<sub>x</sub> and CO source testing requirement. [District Rules 2520, 9.3.2, 4305 and 4306] Federally Enforceable Through Title V Permit
33. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305 and 4306] Federally Enforceable Through Title V Permit
34. The following conditions must be met for representative unit(s) to be used to test for NO<sub>x</sub> limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305 and 4306] Federally Enforceable Through Title V Permit
35. All units in a group for which representative units are source for NO<sub>x</sub> emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2, 4305 and 4306] Federally Enforceable Through Title V Permit
36. All units in a group for which representative units are source tested for NO<sub>x</sub> emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305 and 4306] Federally Enforceable Through Title V Permit
37. The number of representative units source tested for NO<sub>x</sub> emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, and 4306] Federally Enforceable Through Title V Permit
39. ATC shall be implemented concurrently with or subsequent to ATC S-1141-377-12. [District Rule 2201] Federally Enforceable Through Title V Permit



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1141-378-12

**ISSUANCE DATE:** 02/22/2007

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** NW21 **TOWNSHIP:** 31S **RANGE:** 22E

### EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED CE NATCO STEAM GENERATOR # 6 (NB 9807) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), AND O2 CONTROLLER: REMOVE PM10 SOURCE TESTING REQUIREMENT AND REVISE VOC EMISSIONS FACTOR

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Copies of all fuel invoices, gas purchase contract, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit
4. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO2. [District Rules 4301, 5.2.2 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO2, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Sayed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1141-378-12; Dec 31 2009 3:37PM - RINALDIR : Joint Inspection NOT Required

6. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.4.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
7. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
8. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
9. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
10. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
11. Except for periods of startup and shutdown, emission rates shall not exceed any of the following: PM<sub>10</sub> - 0.006 lb/MMBTU; SO<sub>x</sub> (as SO<sub>2</sub>) - 0.00285 lb/MMBTU; NO<sub>x</sub> (as NO<sub>2</sub>) - 0.018 lb/MMBTU or 15 ppmv @ 3% O<sub>2</sub>; VOC - 0.0055 lb/MMBTU; or CO - 0.0185 lb/MMBTU or 25 ppmv @ 3% O<sub>2</sub>. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
12. Daily emissions shall not exceed any of the following: 32.7 lb NO<sub>x</sub>/day, 9,855 lb NO<sub>x</sub>/year, 4.3 lb/SO<sub>x</sub>/day, 9.0 lb PM<sub>10</sub>/day, 27.8 lb CO/day, 8.3 lb VOC/day. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rule 4306] Federally Enforceable Through Title V Permit
14. Permittee shall maintain records of duration of each start-up and shutdown, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit
15. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
16. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

17. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
18. The permittee shall maintain records of: (1) the date and time of NOX, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOX and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
19. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and Kern County Rule 108.1] Federally Enforceable Through Title V Permit
20. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
22. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
23. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
24. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
25. Compliance with SOx emission limits shall be demonstrated by fuel gas sulfur contents analysis at the time of NOx testing, except for natural gas purchased from a PUC regulated utility. [District Rule 1081] Federally Enforceable Through Title V Permit
26. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305 and 4306] Federally Enforceable Through Title V Permit
27. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
28. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (Amended December 16, 1993), of 3 thirty-minute test runs for NOx and CO. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
29. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NOx emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

30. The following conditions must be met for representative unit(s) to be used to test for NOx limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
31. All units in a group for which representative units are source for NOx emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
32. All units in a group for which representative units are source tested for NOx emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
33. The number of representative units source tested for NOx emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
34. Operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
35. ATC shall be implemented concurrently with or subsequent to ATC S-1141-378-11. [District Rule 2201] Federally Enforceable Through Title V Permit



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1141-380-15

**ISSUANCE DATE:** 02/22/2007

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** NE21 **TOWNSHIP:** 32S **RANGE:** 23E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS FIRED C. E. NATCO STEAM GENERATOR # 141 (NB 101, DIS# 20630-79) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), AND O2 CONTROLLER: REMOVE PM10 SOURCE TESTING REQUIREMENT AND REVISE VOC EMISSIONS FACTOR

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102] Federally Enforceable Through Title V Permit
4. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

6. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [County Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus)] Federally Enforceable Through Title V Permit
7. Compliance with fuel sulfur limit(s) can be demonstrated either by monitoring sulfur content at locations(s) after all fuel sources are combined prior to incineration, or by monitoring the sulfur content and volume of each fuel source and performing mass balance calculations. Records of monitoring locations, detected sulfur concentrations, and mass balance calculations, if necessary, shall be maintained and kept onsite and made readily available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
8. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
9. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
10. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
11. Total sulfur content of natural gas combusted shall not exceed 1.0 grain/100 scf. [District NSR Rule] Federally Enforceable Through Title V Permit
12. Copies of all fuel invoices, gas purchase contract, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit
13. Emissions from the steam generator shall not exceed any of the following limits: 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.006 lb-PM<sub>10</sub>/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Except during start-up and shutdown periods emissions from the steam generator shall not exceed any of the following limits: 15 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.018 lb-NO<sub>x</sub>/MMBtu or 51 ppmvd CO @ 3% O<sub>2</sub> or 0.0375 lb-CO/MMBtu. [District Rules 2201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
15. During start-up and shutdown periods emissions from the steam generator shall not exceed either of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu or 0.084 lb-CO/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
17. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
18. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 54.0 lb-NO<sub>x</sub>/day, 9,965 lb-NO<sub>x</sub>/yr, 56.3 lb-CO/day, and 20,531 lb-CO/yr. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

19. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 6.3.1 and 4306, 6.3.1] Federally Enforceable Through Title V Permit
20. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
21. If the steam generator is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the steam generator shall be determined using ASTM D 1072, D 3031, D 4084, D 3246, double GC for H<sub>2</sub>S and mercaptans, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
22. If the steam generator is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
23. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
24. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
25. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
26. NO<sub>x</sub> emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
27. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
28. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
29. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
30. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE



31. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 5.5.2 and 4306, 5.5.2] Federally Enforceable Through Title V Permit
32. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
33. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
34. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
35. The following conditions must be met for representative unit(s) to be used to test for NO<sub>x</sub> and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306] Federally Enforceable Through Title V Permit
36. All units in a group for which representative units are source tested for NO<sub>x</sub> and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
37. All units in a group for which representative units are source tested to for NO<sub>x</sub> and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
38. The number of representative units source tested for NO<sub>x</sub> and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
39. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1] Federally Enforceable Through Title V Permit
40. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit
41. ATC shall be implemented concurrently with or subsequent to ATC S-1141-380-11. [District Rule 2201] Federally Enforceable Through Title V Permit



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1141-402-13

**ISSUANCE DATE:** 03/27/2006

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** NE21 **TOWNSHIP:** 32S **RANGE:** 23E

### EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR SMITH MOON STEEL NATURAL GAS FIRED STEAM GENERATOR HSG #192 (SN 79-37317-3, NB 901, DIS 20634-79) WITH NORTH AMERICAN BURNER - (INDIAN & COLONIAL LEASE): TRANSFER LOCATION TO 21S STEAM PLANT (NE21, T32S, R23E), REPLACE BURNER WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER OR DISTRICT-APPROVED EQUIVALENT FOR RULE 4306 COMPLIANCE AND MODIFY CONVECTION AND RADIANT SECTION WATER/STEAM PIPING IF NECESSARY (RENEWED ONE TIME - 3/12/08)

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201]
4. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2010]

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1141-402-13, Dec 31 2009 3:38PM - RINALDIR : Joint Inspection NOT Required

5. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
6. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201]
7. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and Kern County Rule 108.1] Federally Enforceable Through Title V Permit
8. Copies of all fuel invoices, gas purchase contract, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit
9. Operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
10. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
11. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
12. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.4.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
13. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
14. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6, 6A, 6B, or 6C; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 3246, D 4084 or a grab sample analysis by double GC for H<sub>2</sub>S and mercaptans performed in the laboratory and EPA Method 19 to calculate emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months, however annual source testing shall resume if any test fails to show compliance [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
15. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
16. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2 and 4306, 6.2.1] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

17. During a "shakedown" period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO<sub>x</sub> emission rate shall not exceed 30 ppmvd @ 3% O<sub>2</sub> or 0.036 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4306 compliance deadline selected for this unit. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit
18. Except for periods of startup and shutdown, emission rates shall not exceed any of the following: PM<sub>10</sub>: 0.010 lb/MMBtu, SO<sub>x</sub> (as SO<sub>2</sub>): 0.00285 lb/MMBtu, NO<sub>x</sub> (as NO<sub>2</sub>): 0.018 lb/MMBtu or 15 ppmv @ 3% O<sub>2</sub>, VOC: 0.003 lb/MMBtu, or CO: 0.0185 lb/MMBtu or 25 ppmv @ 3% O<sub>2</sub>. [District Rules 2201, 4305 and 4306]
19. Daily emissions shall not exceed any of the following: 54.0 lb NO<sub>x</sub>/day, 9,855 lb NO<sub>x</sub>/year, 4.3 lb/SO<sub>x</sub>/day, 15.0 lb PM<sub>10</sub>/day, 27.8 lb CO/day, 4.5 lb VOC/day. [District Rule 2201]
20. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rule 4306] Federally Enforceable Through Title V Permit
21. Permittee shall maintain records of duration of each start-up and shutdown, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit
22. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306]
23. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306]
24. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306]
25. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306]
26. Records required by this permit shall be retained on site for a period of at least five years and shall be made readily available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
27. This permit unit shall comply with NO<sub>x</sub> and sulfur compound emission requirements as specified in Rules 4405 and 4406. [Rules 4405 and 4406]
28. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

29. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305 and 4306]
30. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306]
31. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306]
32. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, gas sulfur content - ASTM D1072, D3031, D4084, D3246 or double GC for H<sub>2</sub>S and mercaptans. [District Rules 1081, 4305 and 4306]
33. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306]
34. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (Amended December 16, 1993), of 3 thirty-minute test runs for NO<sub>x</sub> and CO. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
35. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.4.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
36. The following conditions must be met for representative unit(s) to be used to test for NO<sub>x</sub> limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.4.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
37. All units in a group for which representative units are source for NO<sub>x</sub> emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.4.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
38. All units in a group for which representative units are source tested for NO<sub>x</sub> emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.4.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
39. The number of representative units source tested for NO<sub>x</sub> emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1141-431-9

**ISSUANCE DATE:** 08/16/2006

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** NE26 **TOWNSHIP:** 31S **RANGE:** 22E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR C. E. NATCO NATURAL GAS-FIRED STEAM GENERATOR (#26 CENTRAL 6) WITH A NORTH AMERICAN BURNER WITH FLUE GAS RECIRCULATION (FGR) AND AN O2 CONTROLLER; REPLACE EXISTING BURNER WITH AMERICAN GLE LOW-NOX BURNER (OR EQUIVALENT DESIGN); RETAIN FGR; ADD (RETAIN) BLOWER MOTOR; ADD (RETAIN) VARIABLE SPEED DRIVE (VSD); AND ADD (RETAIN) DIFFUSER PLATE

## CONDITIONS

1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. This steam generator is authorized to operate at the following locations: NE26, T31S, R22E and SE17, T32S, R23E. [District Rule 2201] Federally Enforceable Through Title V Permit
3. The permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made in writing no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
4. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rules 1081, 2201] Federally Enforceable Through Title V Permit
5. Copies of all fuel invoices, gas purchase contract, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

6. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.4.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
9. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
10. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method I-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
11. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
12. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
13. Except during start-up and shutdown, emissions rates from the unit shall not exceed any of the following emission limits: 14 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.017 lb-NO<sub>x</sub>/MMBtu, 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.0076 lb-PM<sub>10</sub>/MMBtu, 25 ppmvd CO @ 3% O<sub>2</sub> or 0.0185 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule and District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
14. Emissions shall not exceed any of the following limits: 54.0 lb-NO<sub>x</sub>/day, 9308 lb-NO<sub>x</sub>/year, 4.3 lb-SO<sub>x</sub>/day, 11.4 lb-PM<sub>10</sub>/day, 27.8 lb-CO/day, or 8.3 lb-VOC/day. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
16. Duration of start-up or shutdown shall not exceed two hours each per occurrence. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
17. Permittee shall maintain records of duration of each start-up and shutdown. [District Rule 4306] Federally Enforceable Through Title V Permit
18. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

19. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
20. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
21. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
22. Source testing to measure NOx and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
23. Source testing to measure NOx and CO emissions from this unit while fired on natural gas shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, and 4306] Federally Enforceable Through Title V Permit
24. Annual tests results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx limits of this permit, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. [District Rules 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit
25. The following conditions must be met for representative unit(s) to be used to demonstrate compliance for NOx limits for a group of units: all units are initially source tested and emissions from each unit in the group are less than 90% of the permitted value and vary 25% or less from the average of all runs; all units in a group are similar in terms of rated heat input, design, operation conditions and control method; all units in a group have received the same maintenance and tune-up procedures. Records shall be maintained for each unit of all maintenance & tune-up work done. [District Rules 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit
26. All units in a group for which representative units are source for NOx emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.4.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
27. All units in a group for which representative units are source tested for NOx emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.4.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
28. The number of representative units source tested for NOx emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
29. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
30. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
31. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
32. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE



33. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
34. Compliance with SO<sub>x</sub> emission limits shall be demonstrated by fuel gas sulfur contents analysis at the time of NO<sub>x</sub> testing, except for natural gas purchased from a PUC regulated utility. [District Rule 1081] Federally Enforceable Through Title V Permit
35. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
36. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
37. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
38. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
39. Permittee shall satisfy all applicable requirements of District Rule 4001 - New Source Performance Standards - Subpart Dc including notification and reporting Requirements. [District Rule 4001] Federally Enforceable Through Title V Permit
40. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, and 4306] Federally Enforceable Through Title V Permit



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1141-432-8

**ISSUANCE DATE:** 08/16/2006

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** NE26 **TOWNSHIP:** 31S **RANGE:** 22E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS THERMOFLOOD NATURAL GAS-FIRED STEAM GENERATOR (#26 CENTRAL 8, NATIONAL BOARD# 1254) WITH A NORTH AMERICAN BURNER WITH FLUE GAS RECIRCULATION (FGR) AND AN O2 CONTROLLER; REPLACE EXISTING BURNER WITH AMERICAN GLE LOW-NOX BURNER (OR EQUIVALENT DESIGN); RETAIN FGR; ADD (RETAIN) BLOWER MOTOR; ADD (RETAIN) VARIABLE SPEED DRIVE (VSD); AND ADD (RETAIN) DIFFUSER PLATE

## CONDITIONS

1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. This steam generator is authorized to operate at the following locations: NE26, T31S, R22E and SE17, T32S, R23E. [District Rule 2201] Federally Enforceable Through Title V Permit
3. The permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made in writing no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
4. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rules 1081, 2201] Federally Enforceable Through Title V Permit
5. Copies of all fuel invoices, gas purchase contract, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1141-432-8 : Dec 31 2009 3:39PM - RINALDIR : Joint Inspection NOT Required

6. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.4.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
9. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
10. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
11. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
12. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
13. Except during start-up and shutdown, emissions rates from the unit shall not exceed any of the following emission limits: 14 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.017 lb-NO<sub>x</sub>/MMBtu, 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.0076 lb-PM<sub>10</sub>/MMBtu, 25 ppmvd CO @ 3% O<sub>2</sub> or 0.0185 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule and District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
14. Emissions shall not exceed any of the following limits: 54.0 lb-NO<sub>x</sub>/day, 9308 lb-NO<sub>x</sub>/year, 4.3 lb-SO<sub>x</sub>/day, 11.4 lb-PM<sub>10</sub>/day, 27.8 lb-CO/day, or 8.3 lb-VOC/day. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
16. Duration of start-up or shutdown shall not exceed two hours each per occurrence. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
17. Permittee shall maintain records of duration of each start-up and shutdown. [District Rule 4306] Federally Enforceable Through Title V Permit
18. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

19. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
20. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
21. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
22. Source testing to measure NOx and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
23. Source testing to measure NOx and CO emissions from this unit while fired on natural gas shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, and 4306] Federally Enforceable Through Title V Permit
24. Annual tests results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx limits of this permit, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. [District Rules 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit
25. The following conditions must be met for representative unit(s) to be used to demonstrate compliance for NOx limits for a group of units: all units are initially source tested and emissions from each unit in the group are less than 90% of the permitted value and vary 25% or less from the average of all runs; all units in a group are similar in terms of rated heat input, design, operation conditions and control method; all units in a group have received the same maintenance and tune-up procedures. Records shall be maintained for each unit of all maintenance & tune-up work done. [District Rules 2520, 9.4.2 and 4305] Federally Enforceable Through Title V Permit
26. All units in a group for which representative units are source for NOx emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.4.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
27. All units in a group for which representative units are source tested for NOx emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.4.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
28. The number of representative units source tested for NOx emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
29. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
30. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
31. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
32. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
34. Compliance with SO<sub>x</sub> emission limits shall be demonstrated by fuel gas sulfur contents analysis at the time of NO<sub>x</sub> testing, except for natural gas purchased from a PUC regulated utility. [District Rule 1081] Federally Enforceable Through Title V Permit
35. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
36. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
37. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
38. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
39. Permittee shall satisfy all applicable requirements of District Rule 4001 - New Source Performance Standards - Subpart Dc including notification and reporting Requirements. [District Rule 4001] Federally Enforceable Through Title V Permit
40. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, and 4306] Federally Enforceable Through Title V Permit

# San Joaquin Valley Air Pollution Control District

**PERMIT UNIT:** S-1141-516-7

**EXPIRATION DATE:** 02/28/2006

**SECTION:** NW21 **TOWNSHIP:** 31S **RANGE:** 22E

**EQUIPMENT DESCRIPTION:**

62.5 MMBTU/HR NATURAL GAS/TEOR GAS FIRED SMITH MOON STEEL STEAM GENERATOR (N.B. #827 A) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER

## PERMIT UNIT REQUIREMENTS

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1. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081, and County Rules 108.1 (Kern)] Federally Enforceable Through Title V Permit
2. Copies of all fuel invoices, gas purchase contract, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2 and 40 CFR 60.48c(g)] Federally Enforceable Through Title V Permit
3. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO2. [District Rules 4301, 5.2.2 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
4. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO2, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
5. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO2. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.4.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
6. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
7. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
8. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

9. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
10. Steam generator shall be equipped with the following operational instrumentation: fuel gas volume flowmeter, TEOR gas volume flowmeter, stack temperature and windbox temperature indicators, and flue gas oxygen monitor. [District NSR Rule and 4305] Federally Enforceable Through Title V Permit
11. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District NSR Rule and 1081] Federally Enforceable Through Title V Permit
12. Except for periods of startup and shutdown, emission rates shall not exceed any of the following: PM10: 0.010 lb/MMBtu; SOx (as SO2): 0.113 lb/MMBtu; NOx (as NO2): 0.018 lb/MMBtu or 15 ppmv @ 3% O2; VOC: 0.003 lb/MMBtu; or CO: 0.0185 lb/MMBtu or 25 ppmv @ 3% O2. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
13. Daily emissions shall not exceed any of the following: 54.0 lb NOx/day, 9,855 lb NOx/year, 169.5 lb/SOx/day, 15.0 lb PM10/day, 27.8 lb CO/day, 4.5 lb VOC/day. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rule 4306] Federally Enforceable Through Title V Permit
15. Permittee shall maintain records of duration of each start-up and shutdown, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit
16. The permittee shall monitor and record the stack concentration of NOX, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306]
17. If either the NOX or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
18. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
19. The permittee shall maintain records of: (1) the date and time of NOX, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOX and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
20. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

21. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
22. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
23. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
24. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
25. The operational conditions during compliance testing may be imposed as permit requirements. [District Rule 2080] Federally Enforceable Through Title V Permit
26. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305 and 4306] Federally Enforceable Through Title V Permit
27. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
28. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR gas incinerated in this unit. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit
29. Permittee shall measure and record the fuel gas sulfur content and BTU content at the time of NOx testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit
30. Permittee shall maintain with the permit a current listing of all thermally enhanced well vent control systems providing TEOR vapors to this steam generator and shall make such listing readily available for District inspection upon request [District NSR Rule] Federally Enforceable Through Title V Permit
31. Permittee shall maintain daily records of volume of fuel gas burned, TEOR gas incinerated, and permit number(s) of TEOR systems providing gas for incineration. [District NSR Rule] Federally Enforceable Through Title V Permit
32. Records required by this permit shall be retained at the facility for a period of no less than 5 years and shall be made readily available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
33. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NOx emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.4.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.



34. The following conditions must be met for representative unit(s) to be used to test for NOx limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.4.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
35. All units in a group for which representative units are source for NOx emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.4.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
36. All units in a group for which representative units are source tested for NOx emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.4.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
37. The number of representative units source tested for NOx emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
38. Source testing for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (Amended December 16, 1993), of 3 thirty-minute test runs for NOx and CO. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

# San Joaquin Valley Air Pollution Control District

**PERMIT UNIT:** S-1141-517-14

**EXPIRATION DATE:** 02/28/2006

**SECTION:** NW21 **TOWNSHIP:** 31S **RANGE:** 22E

**EQUIPMENT DESCRIPTION:**

62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED STRUTHERS THERMOFLOOD STEAM GENERATOR N.B. #981  
WITH MAGNA-FLAME LOW NOX BURNER, FGR AND O2 ANALYZER/ CONTROLLER

## PERMIT UNIT REQUIREMENTS

1. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
2. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
4. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.4.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
5. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
6. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
7. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D1072, D3031, D4084, D3246 or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
8. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2, 4305, 6.2.1, and 4306] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

9. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas; or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.4.2 and County Rule 407 (Kern)] Federally Enforceable Through Title V Permit
10. Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 140 lb/hr, calculated as NO<sub>2</sub>. [District Rules 4301, 5.2.2 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
11. Steam generator shall be equipped with the following operational instrumentation: fuel gas volume flowmeter, TEOR gas volume flowmeter, stack temperature and windbox temperature indicators, and flue gas oxygen monitor/recorder. [District NSR Rule, 4305, and 4306] Federally Enforceable Through Title V Permit
12. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District NSR Rule and 1081] Federally Enforceable Through Title V Permit
13. The duration of each startup and shutdown period shall not exceed 2.0 hours. [District Rules 4305 and 4306]
14. Emission rates shall not exceed: 0.093 lb-PM<sub>10</sub>/MMBtu, 0.219 lb-SO<sub>x</sub>/MMBtu, or 0.007 lb-VOC/MMBtu. [District Rule 2201]
15. Emission rates, except during startup and shutdown, shall not exceed any of the following: NO<sub>x</sub> (as NO<sub>2</sub>): 15 ppmvd @ 3% O<sub>2</sub> or 0.018 lb/MMBtu; or CO: 45 ppmvd @ 3% O<sub>2</sub> or 0.0332 lb/MMBtu. [District Rules 4305, and 4306]
16. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NO<sub>x</sub> and CO source testing requirement. [District Rule 2520, 9.4.2, 4305, and 4306] Federally Enforceable Through Title V Permit
17. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306]
18. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
19. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
20. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306]
21. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
22. The operational conditions during compliance testing may be imposed as permit requirements. [District Rule 2080] Federally Enforceable Through Title V Permit
23. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and fuel gas sulfur content - ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans. [District Rules 1081, 4305, and 4306] Federally Enforceable Through Title V Permit
24. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306]

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PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

25. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306]
26. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306]
27. The permittee shall maintain records of the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, the measured NO<sub>2</sub> and CO concentrations corrected to 3% O<sub>2</sub>, and the O<sub>2</sub> concentration. The records shall also include a description of any corrective action taken to maintain the emissions in the acceptable range. These records shall be retained at the facility for a period of no less than five years and shall be made readily available for District inspection upon request. [District Rules 1070, 2520, 9.5.2, 4305, and 4306] Federally Enforceable Through Title V Permit
28. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, and 4306]
29. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306]
30. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306]
31. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR gas incinerated in this unit. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit
32. Permittee shall measure and record the fuel gas sulfur content and BTU content at the time of NO<sub>x</sub> testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit
33. Permittee shall maintain with the permit a current listing of all thermally enhanced well vent control systems providing TEOR vapors to this steam generator and shall make such listing readily available for District inspection upon request [District NSR Rule] Federally Enforceable Through Title V Permit
34. Permittee shall maintain daily records of volume of fuel gas burned, TEOR gas incinerated, and permit number(s) of TEOR systems providing gas for incineration. [District NSR Rule] Federally Enforceable Through Title V Permit
35. The permittee shall maintain records of fuel type, quantity, permitted emission factors and emissions for each unit for each day of operation, in the format approved by the District. [District NSR Rule] Federally Enforceable Through Title V Permit
36. For any day monitoring provisions fail, the emissions shall be calculated on operational data (steam production rate, inlet air and exhaust gas flowrates, etc) or, if such data is not available, for the four days of operation preceding the breakdown. [District NSR Rule] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

37. The sample collection shall be conducted under conditions (fuel quality, firing rate, waste gas incineration, air fuel ratio, etc.) expected to result in emissions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
38. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NOx emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306] Federally Enforceable Through Title V Permit
39. The following conditions must be met for representative unit(s) to be used to test for NOx limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306] Federally Enforceable Through Title V Permit
40. All units in a group for which representative units are source for NOx emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.4.2, 4305, 6.3.2, and 4306] Federally Enforceable Through Title V Permit
41. All units in a group for which representative units are source tested for NOx emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306] Federally Enforceable Through Title V Permit
42. The number of representative units source tested for NOx emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

# San Joaquin Valley Air Pollution Control District

**PERMIT UNIT:** S-1141-518-8

**EXPIRATION DATE:** 02/28/2006

**SECTION:** NW21 **TOWNSHIP:** 31S **RANGE:** 22E

**EQUIPMENT DESCRIPTION:**

62.5 MMBTU/HR GAS/TEOR GAS-FIRED SMITH MOON STEEL STEAM GENERATOR N.B. #856 WITH GLE 4231 LOW NOX BURNER, FGR, O2 ANALYZER/CONTROLLER

## PERMIT UNIT REQUIREMENTS

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1. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
2. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
4. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.4.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
5. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
6. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6 or 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D1072, D3031, D3246, D4084 or a grab sample analysis by double GC for H<sub>2</sub>S and mercaptans performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
7. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D1072, D3031, D4084, D3246 or grab sample analysis by double GC for H<sub>2</sub>S and mercaptans performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

8. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
9. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.3.2 and Kern County Rule 407] Federally Enforceable Through Title V Permit
10. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
11. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO2. [District Rules 4301, 5.2.2 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
12. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
13. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following outdated SIP requirements: 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), 110 (Madera), 402 (Madera), 404 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 405 (Madera), 408 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 407.2 (Kern, Tulare, Kings, Stanislaus, and San Joaquin), and 408.2 (Merced). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
14. The requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
15. The requirements of SJVUAPCD Rule 4351 (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
16. Steam generator shall be equipped with the following operational instrumentation: fuel gas volume flowmeter, TEOR gas volume flowmeter, and flue gas oxygen monitor. [District NSR Rule, 4305, and 4306] Federally Enforceable Through Title V Permit
17. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District NSR Rule and 1081] Federally Enforceable Through Title V Permit
18. The duration of each startup and shutdown period shall not exceed 2.0 hours. [District Rules 4305 and 4306]
19. Emission rates shall not exceed: 0.073 lb-PM10/MMBtu, 0.04 lb-SOx (as S)/MMBtu, or 0.0056 lb-VOC/MMBtu. [District Rule 2201 and 4406]
20. Emission rates, except during startup and shutdown, shall not exceed any of the following: NOx (as NO2): 15 ppmvd @ 3% O2 or 0.018 lb/MMBtu; or CO: 37 ppmvd @ 3% O2 or 0.0273 lb/MMBtu. [District Rules 4305, and 4306]
21. Permittee shall maintain no less than 0.45 miles of asphalt paved roadway. The 0.45 miles of roadway paved is in addition to new roadways associated with other steam injection and oil production well projects. [District NSR Rule] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
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22. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306]
23. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306]
24. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306]
25. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NO<sub>x</sub> and CO source testing requirement. [District Rule 4305, 4306, and 2520, 9.4.2] Federally Enforceable Through Title V Permit
26. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
27. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
28. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
29. Compliance source testing shall be conducted under conditions representative of normal operation. [District NSR Rule] Federally Enforceable Through Title V Permit
30. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306]
31. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100 and fuel gas sulfur content - ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans. [District Rules 1081, 4305, and 4306] Federally Enforceable Through Title V Permit
32. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306]
33. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306]
34. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, and 4306]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.



35. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306]
36. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306]
37. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR gas incinerated in this unit. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit
38. Permittee shall measure and record the fuel gas sulfur content and BTU content at the time of NO<sub>x</sub> testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit
39. Permittee shall maintain with the permit a current listing of all thermally enhanced well vent control systems providing TEOR vapors to this steam generator and shall make such listing readily available for District inspection upon request [District NSR Rule] Federally Enforceable Through Title V Permit
40. Permittee shall maintain daily records of volume of fuel gas burned, TEOR gas incinerated, and permit number(s) of TEOR systems providing gas for incineration. [District NSR Rule] Federally Enforceable Through Title V Permit
41. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306] Federally Enforceable Through Title V Permit
42. The following conditions must be met for representative unit(s) to be used to test for NO<sub>x</sub> limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306] Federally Enforceable Through Title V Permit
43. All units in a group for which representative units are source for NO<sub>x</sub> emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.4.2, 4305, 6.3.2, and 4306] Federally Enforceable Through Title V Permit
44. All units in a group for which representative units are source tested for NO<sub>x</sub> emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.4.2, 4305, 6.3.2, and 4306] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
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45. The number of representative units source tested for NOx emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1141-519-5

**ISSUANCE DATE:** 03/27/2006

**LEGAL OWNER OR OPERATOR:** CHEVRON USA INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL WESTERN STATIONARY SOURCE  
CA

**SECTION:** NW21 **TOWNSHIP:** 31S **RANGE:** 22E

### EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED C.E. NATCO STEAM GENERATOR N.B. #9777 WITH FGR AND O2 ANALYZER/CONTROLLER: REPLACE BURNER WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER OR DISTRICT-APPROVED EQUIVALENT FOR RULE 4306 COMPLIANCE AND MODIFY CONVECTION AND RADIANT SECTION WATER/STEAM PIPING IF NECESSARY

## CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201]
4. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2010]

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1141-519-5 : Apr 29 2010 4:43PM - RINALDIR : Joint Inspection NOT Required

5. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
6. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201]
7. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
8. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
9. The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
10. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
12. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
13. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
14. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
15. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
16. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.3.2 and County Rules 404 (Madera), 406 (Fresno), and 407 (Kern, Kings, Merced, San Joaquin, Stanislaus, and Tulare)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

17. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
18. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO2. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
19. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
20. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
21. This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351 (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
22. Steam generator shall be equipped with the following operational instrumentation: fuel gas volume flowmeter, TEOR gas volume flowmeter, and flue gas oxygen monitor. [District NSR Rule and 4305] Federally Enforceable Through Title V Permit
23. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District NSR Rule and 1081] Federally Enforceable Through Title V Permit
24. During a "shakedown" period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NOx emission rate shall not exceed 18 ppmvd @ 3% O2 or 0.022 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4306 compliance deadline selected for this unit. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit
25. Except for periods of startup and shutdown, emission rates shall not exceed any of the following: PM10: 0.073 lb/MMBtu, NOx (as NO2): 0.018 lb/MMBtu or 15 ppmv @ 3% O2, SOx (as SO2): 0.080 lb/MMBtu, VOC: 0.0056 lb/MMBtu, or CO: 0.027 lb/MMBtu or 37 ppmv @ 3% O2. [District Rules 2201, 4305 and 4306]
26. Daily emissions shall not exceed any of the following: 32.7 lb NOx/day, 9,855 lb NOx/year, 120.0 lb/SOx/day, 109.5 lb PM10/day, 40.5 lb CO/day, 8.4 lb VOC/day. [District Rule 2201]
27. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rule 4306] Federally Enforceable Through Title V Permit
28. Permittee shall maintain records of duration of each start-up and shutdown, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit
29. The permittee shall monitor and record the stack concentration of NOX, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306]

CONDITIONS CONTINUE ON NEXT PAGE

30. If either the NOX or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306]
31. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306]
32. The permittee shall maintain records of: (1) the date and time of NOX, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NOX and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306]
33. Permittee shall maintain no less than 0.45 miles of asphalt paved roadway. The 0.45 miles of roadway paved is in addition to new roadways associated with other steam injection and oil production well projects. [District NSR Rule] Federally Enforceable Through Title V Permit
34. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
35. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
36. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305 and 4306]
37. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306]
38. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306]
39. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
40. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100 and fuel gas sulfur content - ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans. [District Rules 1081, 4305 and 4306]
41. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306]

CONDITIONS CONTINUE ON NEXT PAGE

42. Permittee shall measure and record the fuel gas sulfur content and BTU content at the time of NOx testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit
43. Permittee shall maintain with the permit a current listing of all thermally enhanced well vent control systems providing TEOR vapors to this steam generator and shall make such listing readily available for District inspection upon request [District NSR Rule] Federally Enforceable Through Title V Permit
44. Permittee shall maintain daily records of volume of fuel gas burned, TEOR gas incinerated, and permit number(s) of TEOR systems providing gas for incineration. [District NSR Rule] Federally Enforceable Through Title V Permit
45. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NOx emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
46. The following conditions must be met for representative unit(s) to be used to test for NOx limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
47. All units in a group for which representative units are source for NOx emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
48. All units in a group for which representative units are source tested for NOx emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
49. The number of representative units source tested for NOx emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
50. Source testing for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (Amended December 16, 1993), of 3 thirty-minute test runs for NOx and CO. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
51. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this Authority to Construct shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
52. The EPA Regional Administrator shall be notified by telephone, facsimile, or electronic mail transmission within two (2) working days following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in the condition below. In addition, the Regional Administrator shall be notified in writing within fifteen (15) days of any such failure. The notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the condition below, and the methods utilized to mitigate emissions and restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 78-17] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

53. The EPA Regional Administrator, the head of the State Air Pollution Control Agency, the head of the responsible local Air Pollution Control Agency, and/or their authorized representative, upon the presentation of credentials, shall be permitted: A. to enter the premises where the source is located or where any records are required to be kept under the terms and conditions of this Authority to Construct; and B. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Authority to Construct; and C. to inspect any equipment, operation, or method required in this Authority to Construct; and D. to sample emissions from the source(s). [PSD SJ 78-17] Federally Enforceable Through Title V Permit
54. In the event of any changes in control or ownership of the facilities to be constructed, the Authority to Construct shall be binding on all subsequent owners and operators. The applicant shall notify the succeeding owner and operator of the existence of this Authority to Construct and its conditions by letter, a copy of which shall be forwarded to the EPA Regional Administrator and the State and local Air Pollution Control Agency. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
55. The provisions of this Authority to Construct are severable, and, if any provision of the Authority to Construct is held invalid, the remainder of this Authority to Construct shall not be affected thereby. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
56. The owner and operator of the proposed facility shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60, and 61 and all other applicable federal, state, and local air quality regulations. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
57. Permittee shall consume no more than 6290 barrels per day of oil on a daily maximum average and no more than 5700 barrels per day of oil on an annual average basis. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
58. The sulfur content of the fuel shall be no greater than 1.5% by weight on a daily maximum average and no greater than 1.5% by weight on an annual average basis, as determined by ASTM Methods D115-68, D129-64, or D151-64, or equivalent methods approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
59. The amount of fuel burned and the sulfur content of the fuel shall be recorded in a permanent record and shall be available for periodic inspection by the District, the California Air Resource Board, and the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
60. Permittee shall have installed operable scrubbers on the equipment. Exhaust gases from the generators shall be ducted through operable scrubbers. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
61. Permittee shall not discharge into the atmosphere SO<sub>2</sub> in excess of 0.063 lbs/MMBtu. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
62. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance tests for SO<sub>2</sub>, and furnish the District and the EPA a written report of the results of such tests. The tests for SO<sub>2</sub> shall be conducted on an annual basis. The performance tests shall be conducted for each scrubber required for the generator. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
63. Permittee shall not discharge into the atmosphere NO<sub>x</sub> in excess of 0.277 lb/MMBtu (maximum 2-hour average). [PSD SJ 78-17] Federally Enforceable Through Title V Permit
64. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance test for NO<sub>x</sub>, and furnish the District and the EPA written report of the results of such tests. The tests for NO<sub>x</sub> shall be conducted on an annual basis and at the maximum operating capacity of the facilities being tested. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
65. Permittee shall install and operate ammonia injection equipment to control nitrogen oxide emissions on the steam generator. This condition may be amended if other control technologies are determined by EPA to satisfy BACT requirements, in accordance with the periodic BACT review procedure below. [PSD SJ 78-17] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE



66. Permittee shall submit updated Best Available Control Technology (BACT) proposals every six months. Based on the information submitted and on other information which is available at that time, EPA may impose more stringent emission limits for NO<sub>x</sub>. In no event shall EPA set a higher emission limit for NO<sub>x</sub>. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
67. Performance tests for the emission of NO<sub>x</sub> and SO<sub>2</sub> shall be conducted and results reported in accordance with the methods set forth in Parts 60.8 and 60.46 of the Standards of Performance for New Sources. The EPA shall be notified at least 30 days in advance of such test to allow an observer to be present. In lieu of the above mentioned test methods, equivalent methods may be used if approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit

# San Joaquin Valley Air Pollution Control District

**PERMIT UNIT:** S-1141-521-5

**EXPIRATION DATE:** 02/28/2006

**SECTION:** NW21 **TOWNSHIP:** 31S **RANGE:** 22E

**EQUIPMENT DESCRIPTION:**

62.5 MMBTU/HR GAS-FIRED C.E. NATCO STEAM GENERATOR N.B. #9788 WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR) SYSTEM, AND O2 ANALYZER/CONTROLLER

## PERMIT UNIT REQUIREMENTS

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1. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
2. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
3. The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
4. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
5. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
6. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
7. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

8. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
9. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
10. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.3.2 and County Rules 404 (Madera), 406 (Fresno), and 407 (Kern, Kings, Merced, San Joaquin, Stanislaus, and Tulare)] Federally Enforceable Through Title V Permit
11. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
12. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO2. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
13. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
14. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
15. This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351 (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
16. Steam generator shall be equipped with the following operational instrumentation: fuel gas volume flowmeter, and flue gas oxygen monitor. [District NSR Rule and 4305] Federally Enforceable Through Title V Permit
17. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District NSR Rule and 1081] Federally Enforceable Through Title V Permit
18. Except for periods of startup and shutdown, emission rates shall not exceed any of the following: PM10: 0.073 lb/MMBtu; NOx (as NO2): 0.018 lb/MMBtu or 15 ppmv @ 3% O2; SOx (as SO2) 0.00285 lb/MMBtu; VOC: 0.0056 lb/MMBtu; or CO: 0.027 lb/MMBtu or 37 ppmv @ 3% O2. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
19. Daily emissions shall not exceed any of the following: 32.7 lb NOx/day, 9,855 lb NOx/year, 4.3 lb/SOx/day, 109.5 lb PM10/day, 40.5 lb CO/day, 8.4 lb VOC/day. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rule 4306] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
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21. Permittee shall maintain records of duration of each start-up and shutdown, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit
22. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
23. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
24. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
25. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
26. Permittee shall maintain no less than 0.45 miles of asphalt paved roadway. The 0.45 miles of roadways is in addition to new roadways associated with other steam injection and oil production well projects. [District NSR Rule] Federally Enforceable Through Title V Permit
27. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
28. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
29. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
30. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
31. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

32. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, and stack gas oxygen - EPA Method 3 or 3A or ARB Method 100. [District Rules 1081, 4305 and 4306] Federally Enforceable Through Title V Permit
33. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
34. Permittee shall measure and record the fuel gas sulfur content and BTU content at the time of NO<sub>x</sub> testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit
35. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
36. The following conditions must be met for representative unit(s) to be used to test for NO<sub>x</sub> limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
37. All units in a group for which representative units are source for NO<sub>x</sub> emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rule 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
38. All units in a group for which representative units are source tested for NO<sub>x</sub> emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
39. The number of representative units source tested for NO<sub>x</sub> emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. Source testing for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (Amended December 16, 1993), of 3 thirty-minute test runs for NO<sub>x</sub> and CO. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
41. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this Authority to Construct shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 78-17] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

42. The EPA Regional Administrator shall be notified by telephone, facsimile, or electronic mail transmission within two (2) working days following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in the condition below. In addition, the Regional Administrator shall be notified in writing within fifteen (15) days of any such failure. The notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the condition below, and the methods utilized to mitigate emissions and restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
43. The EPA Regional Administrator, the head of the State Air Pollution Control Agency, the head of the responsible local Air Pollution Control Agency, and/or their authorized representative, upon the presentation of credentials, shall be permitted: A. to enter the premises where the source is located or where any records are required to be kept under the terms and conditions of this Authority to Construct; and B. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Authority to Construct; and C. to inspect any equipment, operation, or method required in this Authority to Construct; and D. to sample emissions from the source(s). [PSD SJ 78-17] Federally Enforceable Through Title V Permit
44. In the event of any changes in control or ownership of the facilities to be constructed, the Authority to Construct shall be binding on all subsequent owners and operators. The applicant shall notify the succeeding owner and operator of the existence of this Authority to Construct and its conditions by letter, a copy of which shall be forwarded to the EPA Regional Administrator and the State and local Air Pollution Control Agency. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
45. The provisions of this Authority to Construct are severable, and, if any provision of the Authority to Construct is held invalid, the remainder of this Authority to Construct shall not be affected thereby. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
46. The owner and operator of the proposed facility shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60, and 61 and all other applicable federal, state, and local air quality regulations. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
47. Permittee shall consume no more than 6290 barrels per day of oil on a daily maximum average and no more than 5700 barrels per day of oil on an annual average basis. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
48. The sulfur content of the fuel shall be no greater than 1.5% by weight on a daily maximum average and no greater than 1.5% by weight on an annual average basis, as determined by ASTM Methods D115-68, D129-64, or D151-64, or equivalent methods approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
49. The amount of fuel burned and the sulfur content of the fuel shall be recorded in a permanent record and shall be available for periodic inspection by the District, the California Air Resource Board, and the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
50. Permittee shall have installed operable scrubbers on the equipment. Exhaust gases from the generators shall be ducted through operable scrubbers. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
51. Permittee shall not discharge into the atmosphere SO<sub>2</sub> in excess of 0.063 lbs/MMBtu. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
52. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance tests for SO<sub>2</sub>, and furnish the District and the EPA a written report of the results of such tests. The tests for SO<sub>2</sub> shall be conducted on an annual basis. The performance tests shall be conducted for each scrubber required for the generator. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
53. Permittee shall not discharge into the atmosphere NO<sub>x</sub> in excess of 0.277 lb/MMBtu (maximum 2-hour average). [PSD SJ 78-17] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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54. Within 60 days after achieving the maximum production rate of the proposed facility, but not later than 180 days after initial start-up of this facility (as defined in 40 CFR 60.2(o)), and at such other times as specified by the EPA, permittee shall conduct performance test for NO<sub>x</sub>, and furnish the District and the EPA written report of the results of such tests. The tests for NO<sub>x</sub> shall be conducted on an annual basis and at the maximum operating capacity of the facilities being tested. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
55. Permittee shall install and operate ammonia injection equipment to control nitrogen oxide emissions on the steam generator. This condition may be amended if other control technologies are determined by EPA to satisfy BACT requirements, in accordance with the periodic BACT review procedure below. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
56. Permittee shall submit updated Best Available Control Technology (BACT) proposals every six months. Based on the information submitted and on other information which is available at that time, EPA may impose more stringent emission limits for NO<sub>x</sub>. In no event shall EPA set a higher emission limit for NO<sub>x</sub>. [PSD SJ 78-17] Federally Enforceable Through Title V Permit
57. Performance tests for the emission of NO<sub>x</sub> and SO<sub>2</sub> shall be conducted and results reported in accordance with the methods set forth in Parts 60.8 and 60.46 of the Standards of Performance for New Sources. The EPA shall be notified at least 30 days in advance of such test to allow an observer to be present. In lieu of the above mentioned test methods, equivalent methods may be used if approved by the EPA. [PSD SJ 78-17] Federally Enforceable Through Title V Permit

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# San Joaquin Valley Air Pollution Control District

**PERMIT UNIT:** S-1141-522-5

**EXPIRATION DATE:** 02/28/2006

**SECTION:** NW21 **TOWNSHIP:** 31S **RANGE:** 22E

**EQUIPMENT DESCRIPTION:**

62.5 MMBTU/HR STRUTHERS THERMOFLOOD NATURAL GAS-FIRED STEAM GENERATOR N.B. #979 WITH A NORTH AMERICAN MAGNA-FLAME MODEL GLE ULTRA LOW NOX BURNER, FGR AND O2 ANALYZER/CONTROLLER

## PERMIT UNIT REQUIREMENTS

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1. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
2. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
3. The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
4. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
5. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 2520, 9.4.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
6. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
7. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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